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*A Biographical Notice of the late John Syng Dorsey, M. D.  
Professor of Anatomy in the University of Pennsylvania.*

Stat sua cuique dies; breve et irreparabile tempus  
Omnibus est vitæ, sed famam extendere factis,  
Hoc virtutis opus.

VIRGIL.

JOHN SYNG DORSEY was born in Philadelphia on the 23d of December, 1783; he received his elementary education at the Friends' school, in Fourth street, in this city. At that seminary, which was then in high reputation, he acquired an excellent English and classical education.

In the fifteenth year of his age he entered upon the study of medicine, under the direction of his uncle, Dr. Physick. Ardent in the pursuit of his new studies, he soon gave auspicious tokens of his future eminence; and qualified himself, before he had attained the age of nineteen years, to receive, in a distinguished manner, the honours of his native university. He was graduated a doctor of medicine in the spring of 1802, on which occasion he published and defended an interesting inaugural thesis, "*On the Powers of the Gastric Liquor, as a solvent of Urinary Calculi.*"

VOL. II.

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Having received the honours of his *Alma Mater*, and stimulated by a laudable ambition of excelling in his profession, he proceeded to Europe, for the purpose of enlarging his acquisitions in medicine. He left home on the 16th of November, 1803, and was absent between twelve and thirteen months.

In the English, as well as the French metropolis, which he also visited, the field of observation and study lay extensively open to our youthful and ardent student; nor were these opportunities of improvement neglected by him. Here, instead of following amusement through its various and captivating scenes, he passed the greater part of his time in the gloomy abodes of disease; he visited hospitals, dispensaries, frequented the lectures of eminent teachers, and employed himself in dissecting: with such opportunities of study, a mind bent upon improvement, like that of Dr. Dorsey, could not but acquire a valuable fund of medical knowledge. In December, 1804, he returned to his native country, and soon afterwards entered upon the arduous duties of his profession. His skill, the urbanity of his deportment, together with the patronage of his eminent preceptor and relation, who well knew his merits, soon acquired him an extensive circle of practice. Although his studies were directed, equally, to every department of his profession, he early discovered a predilection for surgery. Indeed, his genius was of a turn happily suited for the attainment of eminence in this branch of medicine; for, uniting to a vigorous and correct judgment, a talent for manual operations, he was peculiarly qualified not only to plan and to decide promptly and correctly, but also to perform with firmness and dexterity.

In the twenty-fifth year of his age, he was appointed one of the attending surgeons of the Pennsylvania Hospital and Alms-House. In these institutions he had frequent occasion to perform important operations, in which he always evinced that steady resolution, and dexterity of performance, which distinguish the skilful surgeon. His professional reputation, which already stood high, now rose rapidly. In 1807, he was associated with Dr. Physick, as an adjunct professor



of surgery in the University of Pennsylvania ; upon this duty he entered with zeal, and soon became a favourite lecturer with the pupils of the University.

On the death of the late eminent professor Barton, a vacancy occurring in the professorship of *Materia Medica*, Dr. Dorsey was called to fill that chair. Though he had never devoted himself, in an especial manner, to this branch of medical science, he soon proved, by the lucid and highly interesting lectures he delivered on this subject, that he was calculated to become eminent in whatever department of his profession he chose to engage. Having lectured on *Materia Medica* a few seasons only, he was appointed, in July last, to fill the vacancy occasioned in the anatomical chair, by the death of the much lamented and eminent professor Wistar. This chair he was well qualified to fill, both from the tenor of his previous studies, and the natural bent of his mind ; and although the loss sustained in the death of Dr. Wistar was great, Dorsey promised, fairly, to supply that loss. He now applied himself diligently to preparing for his first course of anatomical lectures. On the 2d of November last, he delivered his introductory lecture ; it was eloquent, tasteful, and learned : but, alas ! though blooming with health, it was his last address to the students. The benevolent God took him from us :—he died on the 12th of November, in the thirty-fifth year of his age.

Standing on the highest ground of his profession, with talents and zeal that bespoke a successful career in the pursuit of science, none ever had a more flattering prospect before him. But such advantages and such prospects could not save him from an early grave ! and we must lament that Dorsey was thus destined, in the flower of his age, to join the manes of Woodhouse, Rush, Barton, and Wistar, the preceptors of his youth, and the colleagues of his manhood.

Much engaged in the practice of his profession, Dorsey did not enjoy a great deal of leisure for literary undertakings. In the year 1813, he published the "*Elements of Surgery*," in two volumes. This work, written in a plain and unaffected

style, is well known, and generally acknowledged as the best work of the kind extant. Embracing the improvements made in surgery in our own country, and adopting, from the writers of other nations, their peculiar excellencies, it presents, in a clear and succinct manner, modern surgery in its most improved form.

Shortly before his death, Dr. Dorsey was engaged in an experimental inquiry, relative to the direct passage of fluids from the stomach to the urinary bladder. The result of this inquiry discountenances the existence of such passages. An account of these interesting experiments will be published, we are informed, in the next volume of the Transactions of the American Philosophical Society.

Dr. Dorsey was not only deeply versed in his professional science; his acquaintance, also, with general literature was respectable, and he had acquired considerable proficiency in the useful and ornamental arts of drawing and sculpture:—many of the plates in his *Elements of Surgery* were designed and engraved by himself.

His merit as an operative surgeon was of the first rank. Without betraying any hurried or embarrassed movements whilst engaged in an operation, he commenced it, and proceeded to its termination, with firmness and skill. Notwithstanding the calmness and apparent apathy with which he went through his operations, he was far from being destitute of that tenderness of feeling which commiserates the objects of misery and pain, and which the practice of surgery is so especially calculated to excite.

The character of his mind was profound, though not brilliant; his perception was clear and acute; his reason strong; his judgment correct and profound; his imagination chaste and excursive; and his taste cultivated and delicate.

The qualities of his heart were not less excellent than those of his mind. He was friendly, benevolent, and generous. His manners were elegant and interesting,—dignified without affectation, and familiar without frivolousness. His conver-



sation was lively and unostentatious ; his disposition cheerful and affectionate.

He was a sincere believer in the redeeming religion of Jesus Christ ; “ and his survivors will recollect with pleasure, his readiness, when the duties of his profession would permit, to mingle with the crowds that go up to the sanctuary of God.”

Such was the man whose death we deplore, and whose worth we endeavour to commemorate. Of him it may truly be said,

— multis ille bonis flebilis occidit.

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*Observations on Fever, &c. made in the Pennsylvania Hospital.*  
By S. Calhoun, M. D.

November 1, 1818.

THE following observations were made during the last four months, in the Pennsylvania Hospital.

Fever has been considered as an irregular and morbid affection of the blood-vessels. The powerful action of the heart, the increased hardness of the pulse, its preternatural quickness and frequency, with the weakness of the other functions, support this opinion. From the debilitating effect produced by the evacuation of blood, also ; from the increased heat, attendant upon all the forms of fever ; from the effect of cold water, which tends to allay the tumult of the vessels, it appears reasonable to refer this class of diseases to the sanguiferous system, and to that system our remedies are most properly addressed. It is difficult, however, to determine how far each remedy and mode of treatment is proper in every case ; and, indeed, from the contradictory experience of authors,\* it is doubtful, except in epidemics of a highly inflammatory, or those of an excessively low and nervous type, whether medi-

\* See Fordyce and Jackson on Fever.

cine does any good whatever in this class of diseases. To determine how far simple means could be of use in curing fever, the following observations were made upon the remittents of the last season.

There is a grade of fever which partakes of an inflammatory character, in the hardness, frequency, quickness, and fulness of the pulse, and at the same time the tendency to that state, of which weakness is the prominent trait, which has been denominated typhus, is rapid. The blood is often sizy, the heat of the system above  $98^{\circ}$ , the pulse more frequent than 72, and the system has a disposition to depression, to debility, and death. The signs by which this tendency to change is known, and on which I have principally depended to direct my practice, are a trembling of the muscles on every attempt at motion, on putting out the tongue, extending the hand, or raising up in bed. When these symptoms appeared, the practice of gentle but full stimulation by diet has been pursued, and with the greatest success.

The irregular motions of the muscles, above designated, by no means amount to the ordinary subsultus, which characterizes typhus in its advanced stages. They consist simply in a trembling of the tongue and other muscles, and appear when all the symptoms of inflammatory fever are present. Regarding this symptom as an evidence of debility, the practice of supporting the system by nourishment, vigorously and promptly administered, was followed; and as it was believed that the ordinary plan of stimulating by the exhibition of medicines, as volatile alkali, musk, wine, &c. had a tendency to exhaust the system, without adding permanently to its strength, it was concluded that the exhibition of nourishing diet, principally of a vegetable nature, in large quantities, and frequently repeated, would be the most probable means of removing the debility; particularly as the pulse was frequent, and not easily compressible, it appeared less dangerous than the exhibition of the more active stimuli. Accordingly, half a pint of soup, of tapioca, of sago, or other vegetable matters was given, and repeated every two or three hours during the



day and night. The effect of these large quantities of stimulants at first was to produce sickness; in some instances vomiting; and, when the febrile action was considerable, a disposition to sleep, amounting sometimes to coma. The sickness of the stomach seldom proceeded beyond the second or third exhibition of the diet; afterwards it digested with its usual power, and the system acquired strength. This fact, with regard to the digestive powers of the stomach in fever, is new; it has generally been considered, that the high excitement of the system is unfavourable to its functions, and so it undoubtedly is for the first two or three exhibitions of the diet; afterwards, though the fever continues, the stomach performs its operations with its usual vigour; the stools, which were often brown and sometimes black, become natural; the appetite returns, and the patient, in the remissions of the fever, is more strong and capable of exercise. In a few days the exacerbations diminish, the patient experiences an increased appetite, and gradually returns to health. This practice of the application of diet to the cure of fevers in the quantity and manner recommended, differs from the plan adopted in France, of administering ptisans, emollient beverages, and diluent drinks, as it has for its direct object the increase of the strength, by the vigorous exhibition of a mild simple diet. In the French plan, the patient is cured by the spontaneous termination of the disease; in the one proposed, by the vigorous exhibition of a mean, whose object is to support the system.

The debility which introduces the phænomena of fever, continues, in a greater or less degree, during all its stages. If the system be full and plethoric, and if any particular viscus be affected, the plan of exhibiting large quantities of diet has been suspended, till that excessive action was diminished; and this was done by venesection, but as soon as the local pain ceased, though the pulse continued active, the plan of plentiful nutrition was commenced.

In remittent fevers, then, where there is no particular local determination, where the pulse is active, though it be above

72, and the heat above 98, the exhibition of large quantities of diet I have found both safe and proper, attended with the best effects, and a speedy cure.

This curious fact leads us to inquire how far our art is useful in the cure of this extensive class of diseases. If the exhibition of a mean, confessedly tonic, and in quantities which the stomach in health could hardly bear, cures the disease, even in some of those instances where the lancet was formerly believed to be proper, the fact is interesting; and it would be worthy of examination, how far our views on the subject of fever have been correct.

In some instances, great oppression of the system is the result of this plan of treatment; the pulse becomes slower, fuller, and more tense than usual; the brain is impaired in its functions; the patient is more or less insensible, and disposed to sleep; the hearing is obtuse, and the vision imperfect; the speech, which is generally the measure of the actions of the mind, is slow and hesitating. These symptoms generally take place in the afternoon; then the exhibition of the diet is suspended, till the remission of the fever relieves the patient; he rises with renovated strength in the morning, and in from four to six or ten days is perfectly recovered. I have seen no danger from this practice. I have lost no patient in mild remittent or low fevers, since I commenced it, and the results have been entirely favourable;—they have recovered rapidly.

The same plan of treatment has been applied to intermittent fever, and with the best effects. Obstinate cases, in which the face was suffused with bile, and of long standing, have been relieved by exhibiting half a pint of mild vegetable diet every two hours; and what is remarkable, in one case the disease became anticipating, the interval lessening by two hours every paroxysm; it was relieved, and the fever cured.

Observations have been made upon the plan of arresting intermittent fevers by the application of the tourniquet to compress the principal blood-vessels of the limbs, and with effect. The tourniquet was applied to the humerus and



to the thigh, sometimes to one only, and at other times to both. It suspends the fit of the fever, if applied previous to the accession; and during the paroxysm, it moderates and shortens its duration.

When compression is made upon the great artery, and not upon the vein, the blood of the limb is exhausted, by preventing its influx by the arteries, and favouring its passage to the heart, by the veins, and fainting is induced. The paroxysms of remittent fever have been moderated and arrested by the compression of the humoral artery by the finger. A violent head-ach was temporarily removed by the same expedient. It appears to be a most excellent substitute for blood-letting, in some instances, for it lessens the actions of the pulse, without diminishing permanently the strength of the system.

Cold water, externally applied, has been used in rheumatism and in mania; in rheumatism, success has attended its application; it is adapted to cases of high morbid action. In one case, where the pains at night were violent, and attended with a full and frequent pulse, the disease was cured, and an intermittent fever supervened. This circumstance induced the application of cold water in the cure of mania: it was conjectured that the continued operation of cold, by lessening the heat of the body, might induce a chill, which, if succeeded by a fever, might continue its regular morbid changes, and thus relieve the disease of the mind. The effect was remarkable; a chilly and reduced temperature of the skin continued for two and three hours after the application of the cold water, but in no instance was it succeeded by fever. The cold bath was applied about the temperature of 52° of Fahrenheit, and continued till a complete chill was induced in the patient, and where the case rendered it expedient, the temperature of the bath was reduced by ice.

In some cases, large doses of the essential oils, as the oil of mint, were exhibited after the patient had been subjected to the influence of the cold water, but without any effect in inducing fever. The disease was unmitigated; the habits, disposition, and character of the mind remained the same. This

practice of applying cold water in mania is very ancient : it is spoken of in one of the fables of Esop, and it is probable was used in his day. Celsus speaks of cold water as applied locally to the head, and with good effect.

My practice in the disease of mania has been various. Emetics, frequently repeated in small doses, so as to produce sickness at the stomach, have been the principal remedy used during this season, and with considerable success.

The view of the pathology of this disease, under which this remedy has been prescribed, is, that it consists in a diminished energy of the brain. By removing the superabundant mucus of the stomach ; by increasing its sensibility, which, in mania, is almost always impaired, the functions of these viscera are increased in power, and the whole system becomes also stronger. There is too a sympathy between the stomach and the brain, which, by this class of medicines, is powerfully affected, and a direct impression is thus made upon that organ, and its diseases relieved and alleviated. So powerful is the agency of this class of remedies upon the system, that it has been proposed by the celebrated Dr. Fothergill, of London, to use them in apoplexy, as a substitute for blood-letting in those cases where the pulse is high and strong, and the energy of the system has a correspondent character.

That there is an increased action of the blood-vessels of the brain, has been inferred from the deep impression upon the sides of the skull, made by the arteries ; as also, in many cases, from the sensation of beating and pain of the head, of which patients often complain. The permanent effect produced by the operation of small doses of emetics, repeated at small intervals, promises, from this view of the pathology of the disease, great good effects. The sickness induced by this class of remedies continues often for twenty-four hours ; and sometimes the appetite will be impaired even on the next day. The effect of this plan upon the vascular system is great, and the consequence upon the disease corresponds with these views of its pathology. It may be here remarked, that the pulse is more quick and frequent, less regular, and without the strength



of health in chronic mania ; it is increased in action, but not in power. With the digitalis, exhibited in tincture, and in very large doses, I have succeeded in one case. The quantities in which I have given this medicine, are much larger than usual ; from 20 to 40 drops every two hours has been the common quantity with which I commenced ; and it has been continued, till the characteristic effects of that medicine, the sickness of stomach and disposition to fainting, have been produced.

No danger has resulted from this mode of practice ; on the contrary, I have found no objection, excepting that it produces temporary intoxication, and sometimes a slight giddiness. In one instance, sickness was the result, and the patient could not bear the medicine even in a very small quantity ; this, however, proceeded from peculiarity of constitution, against which it is impossible to guard in the exhibition of active remedies, as it depends upon concealed causes, which experience alone can discover.

The use of blisters in mania has, in general, been hurtful ; they inflame the blood-vessels of the head, and increase, particularly in recent cases, the febrile dispositions they were intended to allay.

Issues, as far as my observation extends, have been equally unsuccessful. Mercury, as a remedy which produces an alterative effect upon the system, and determines its actions to other parts, is useful frequently in this disease ; but its virtues have been much overrated.

With regard to the moral treatment of maniacs, the Hospital has afforded few advantages. Excepting the mode of punishment by the cold bath, the restraints of regular hours, and confinement in solitary rooms, this plan of treatment is but little regarded. The constant occupation of the body and the mind, promises much in this malady, by dissipating the errors of the imagination, and exhausting the increased sensibility of the senses, which renders the patient, upon all occasions, more or less susceptible of the agency of external objects, on being suddenly presented, and gives to the system an irregularity of ac-

tion, which, even in persons who are sane, bears considerable analogy to mania.

Confinement never fails to produce this highly excitable state of the brain and organs of sense: it appears even in animals: it is well known that the horse, when confined without his usual exercise, starts at every noise, and every object of an uncommon appearance which presents itself, on first leaving the stable; and no doubt, from the increased excitability of the senses: The mania, from intense study, arises in this manner; and it is therefore of the utmost importance to prevent patients, with this disease, from being too much alone, as their minds become excitable, and exhibit those irregular actions in a greater degree, which characterise derangement.

With regard to mania from intemperance, the plan of emetics, as proposed by Dr. Klapp, has been used. The instances, however, have not been sufficiently numerous to determine its character. In two cases, by no means favourable for testing the practice of the highly respectable physician who proposes the plan, it appeared to do very little good. In general, it will be found that the best plan of managing this disease, is to moderate the actions of the system by blood-letting, when too violent, and to stimulate by opium and other remedies of an exciting character, when they fall below the natural standard. The system, thus moderated and supported, subsides into health, provided the stamina still remain sufficiently strong to bear the convulsions and irregularities of action produced by the excessive stimulation, which produces the disease. The experience of Dr. Klapp, in this form of mania, induces me to believe that emetics are highly favourable for effecting the reduction of the blood-vessels, and promoting the return of the system to health. In palsy, issues have been found extremely useful in palliating the symptoms, and giving strength to the debilitated muscles; the power of the flexors was increased; that of the extensors was little changed.



*The following Observations are extracted from a Letter to S. Colhoun, M. D. by D. J. P. Batchelder, Charlestown, (N. H.) Nov. 26, 1818.*

THE application of cold water in rheumatism accords with the experience of one of my friends. He was subject to rheumatism, and, when attacked, his remedy was, to go to a river, near which he lived, strip himself, and wade about in the water up to his neck, until he was thoroughly chilled ; when he came out, he hastened home, and went immediately to bed. This practice he followed at all times in the year with uniform success, and with impunity. In a few cases, I have tried percussion with bandaging in the same disease, with very satisfactory results. It has been recently proposed by the author of this practice, to cure whitlows in the same way, which, if practicable, is certainly preferable to making an escar on the affected part, by the early application of caustic, which is, so far as I know, the surest method of preventing or arresting the progress of that most painful affection.\*

Richerand's operation of the extirpation of a cancerous affection of the breast, with three or four of the ribs, laying open the cavity of the pleura, is unique in surgery. Its expediency is, however, questionable ; for I have invariably found, on dissection, the glands situated on the interstices between the ribs, enlarged in the same manner as those in the axilla. The removal of these glands is impossible. The operation necessarily fails. I have tied up the humoral artery of a horse, and have fixed my opinion with regard to the utility of the leather ligature.†

I have recently cured a case of fits by the use of the oxyde of zinc and ergot, combined in a powder. The child had from 10 to 30 fits in a day, for four months preceding the adminis-

\* The credit of this practice, I believe, is due to Dr. Perkin, of Philadelphia.

† This ligature consists of a thin slip of shamoy leather, covered with wax, and rolled into a proper shape. It was introduced by Dr. Physick.

tration of the medicine ; his senses were impaired. The dose was one grain of the oxyde of zinc to three of the ergot. He has had no fits since the medicine was first exhibited. I am well aware that when medicines are given in a compounded state, it is impossible to tell which effects the cure ; the ergot probably was the active remedy in the above case.

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*Observations on Mr. Fogo's paper on the Importance of the Uterus. By Wm. P. Dewees, M. D.*

THE utility of periodical publications is universally admitted ; they afford an easy and certain mode of communication between men of general literature and science, and are the vehicles of many useful improvements and important discoveries ; and this applies in a particular manner to the art of healing. By their means, also, we are put in possession of practical improvements without the parade of system, and obtain by their agency useful facts that would have laid dormant with their discoverers. But may we not also add, that by their means many *false facts* are promulgated, and many speculations ingeniously defended, to the decided injury of medical science ?

We have been led to these reflections, by reading a few days since, Mr. Fogo's paper "On the Degree of Importance which should be attached to the Functions of the Uterus in regard to Health," inserted in the 6th vol. of the Edin. Med. and Surg. Journal, p. 175. And as we differ in sentiment with the author, we have taken the liberty of making some observations on it. Should they comport with the intentions of the "Medical Recorder," we shall be pleased if they obtain currency through that medium ; and, should leisure serve, they may be followed by similar discussions.

Mr. F. begins by observing, "I have always differed in



opinion with medical writers on the subject of the very great importance of the functions of the uterus. That simple, passive, accommodating organ, has had more importance attached to it, than has fallen to the share of all the other organs taken together. That important organ, that important secretion, that important discharge, that important time, when an important change takes place in the system, are high sounding expressions, which stun the ears, and stare us in the face in every page of the writings of physicians, when on this subject. The simplicity of its structure being known to every anatomical reader, need not be pointed out. It is also a very passive organ. When the balance between the solids and fluids is well adjusted, when the female is in good health, at a certain age, a small quantity of blood is effused from the dilated extremities of the exhalent vessels, which returns at periodical times. This merely shows, that the evolution of the organ is complete, and that the female is capable of being impregnated, and producing one of her species. The same circumstance, in an inferior degree, takes place in every female animal we are acquainted with. If the fluids are deficient, the exhalents allow none to be effused. Did this effusion issue from complicated bodies called glands, it would have been entitled to more important consideration. It cannot be called a secretion; there is no alteration made in the fluid, as happens in all the organs called glands. It is a simple effusion of red blood, unchanged. Secretions from the various glands are very different from the blood which enters them; some insipid, some bitter, &c. But how these secretions are affected, the microscopic eye of the anatomist has never been able to detect. It also differs from glandular secretions. While the female is in health, the various secretions, and this effusion, go on; but, on the system being reduced by disease, the glandular secretions continue, though in small quantity; this effusion stops, nor can it be restored until the system is replenished."

We have quoted the whole of this paragraph, that Mr. Fogo's opinions might be seen at full length. From this it would appear his ideas of the physiology of the uterus are very li-

mitted, and more especially of the production of the menstrual discharge. He looks upon this evacuation to be nothing but an effusion of "real blood, unchanged," "from the dilated extremities of the exhalent vessels;" but admits that, were "this effusion from complicated bodies called glands, it would be entitled to more important consideration." Here Mr. F. takes for granted, what remains to be proved; and to this proof we challenge him, that the menstrual fluid is a mere evacuation of "real blood, unchanged." We are of opinion that he cannot prove it, for the following considerations. 1st, It differs from real, unchanged blood, in smell; 2d, in colour; 3d, in never coagulating or separating into parts, however long kept, as is proved by instances of imperforate hymen.\* Here, then, we perceive very obvious differences between the menstrual fluid, and "real blood, unchanged." This, perhaps, might be thought sufficient to convict Mr. F. of error; but we shall not rest satisfied here, but proceed to examine his opinions a little more at length.

Has Mr. F. ascertained, by any direct or indirect experiments, that the menstrual fluid is "real blood, unchanged?" If he has, he has not mentioned them; on what, then, does he ground the opinion that it is "real blood?" This he does not tell us:—It is, therefore, in our opinion, an assumed datum; and we must strongly insist on this, since we have pointed out obvious and remarkable differences; and would now ask, if this discharge were "real blood, unchanged," why does it not exhibit the marks of "real blood, unchanged?" Why does it not exhibit the phenomena that blood always does, when at rest, after having escaped from its vessels? Does it coagulate or separate, like "real blood" when extravasated, either when exposed to the influence of air, or when excluded from it? If

\* In cases of this kind, in most instances the blood has been accumulating for a number of months; indeed, almost always until the pain arising from distention forces the girl to seek relief. Now, in every case of this kind, the menstrual blood is found to flow without the least mixture of coagula, so soon as a puncture has set it at liberty. The only change witnessed, is, perhaps, a little thickening, from the absorption of some of its finer parts.



coagula appear during the menstrual period, they are always looked upon as evidencing a state of disease, and they uniformly with us, as well as many others,\* are made the basis of an important diagnosis when consulted for profluvium mensium. For when no coagula accompany this discharge, we rarely find it necessary to interfere with it, as it but very seldom is carried to excess; but on the contrary, where there is a discharge of coagula, we uniformly prescribe for the hæmorrhagy, as we look upon this as disease. And what decidedly proves the difference between these two fluids is, that the hæmorrhagy, or discharge of "real blood," shall, by suitable remedies, be made to cease, without interrupting, in the smallest degree, the true menstrual efflux.

Mr. F. confesses that, "did this effusion issue from complicated bodies called glands, it would have been entitled to more important considerations." We should have been glad to have known Mr. F.'s definition of a gland, since he seems to deny that the membrane which lines the internal surface of the womb has the structure. But has he proved there are no glands for the purpose of this secretion, or that the mucus membrane of the uterus is incompetent to this end? Certainly he has not in the paper before us—he merely roundly asserts, that "it cannot be called a secretion; there is no alteration made in the fluid, as happens in all the organs called glands." Is this argument, or bare assertion? Is this not the point to be proved; for again we must ask, what evidence has Mr. F. that the menstrual discharge, and "real blood," are one and the same fluid? We must again declare that he has none, or at least he has given us none. Why does he doubt this to be a secretion? Is it necessary to every kind of secretion that there should be "complicated bodies?" Certainly it is not. For in the most simple with which we are acquainted, the fluids undergo some "change;" even arterial exhalation has its modifications; without which, the elimination could not take place; for without some peculiar action of the membranes, the

\* See Lamotte, Mariceau, &c.

serum would remain united with the other constituent parts of the blood, as it is too warm and too much agitated to permit of a spontaneous separation of its parts.

When we advance a step higher in this process, we find the mucous membranes secreting a substance which required more elaboration, and consequently a greater complication of vessels ; the arrangement which is necessary for the secretion of mucus has been termed *crytæ*, glandular follicles, and mucous *lacunæ* ; and of this kind we rank the internal surface of the uterus, as it will not be disputed that there is present in the cavity of this viscus a constant supply of a tenacious fluid, designed for the use of this organ. And should it be insisted on that the uterus, as a whole, is not a glandular body, yet it will and must be admitted, that its inner surface performs the office of secretion, and that sometimes to a great extent, and this will be sufficient for our purpose ; for it is to this surface we refer the secretion of the menstrual fluid. And perhaps we do not hazard much, when we say it is more glandular than some are willing to allow, since it is particularly obnoxious to the diseases of glandular parts, namely, *scirrhi* and cancer.

As Mr. F. commences his paper with the declaration that, " he always differed in opinion with medical writers on the subject of the very great importance of the functions of the uterus," it would be but reasonable he should have stated fairly his reasons for this dissent ; instead of which, he offers us nothing but a tissue of declamation, neither easy to unravel nor comprehend. As he would seem to rest his great argument on the bare assertion, that the menstrual discharge is nothing but an exhalation of " real blood, unchanged," we shall endeavour to strengthen what has just been suggested in favour of this discharge being truly a secretion, by an appeal to authors of the greatest respectability ; and to those who, to say the least, have had as great opportunities to investigate this subject as the author of the paper now under consideration ; and what is still more in point, some of whom entertained the same doctrine as Mr. F. himself, yet were rather doubtful of its truth.



The first we shall notice, with this view, is Mauriceau. He declares himself pretty much of the opinion of Hippocrates on this subject: "Procedit autem sanguis velut à victima, cito congelatur, si sana fuerit mulier," but remarks, "si on remarque *quelque alteration en sa substance et en sa couleur*, cela ne precede que du melange de quelques exértions de la matrice." Here we cannot fail to remark the influence of authority: it was at this period a proof of ignorance, nay, criminal, to differ from Hippocrates or Galen, and to reconcile this slavish adherence, to the fact, he attempts to account for the alteration in colour and substance, to its admixture with some foreign body in its passage through the uterus and vagina; we need not stop to disprove this absurdity, as it carries its own refutation with it.

The next is Lamotte. He says, "Je ne sais point aussi une règle générale de la bonne qualité qu'Hippocrate donne à ce sang, non plus de la mauvaise et pernicieuse qui Pline lui attribue. Hippocrate dit que ce sang est semblable à celui d'une victime, et se caille promptement, si la femme est saine. Il faudroit, pour faire cette remarque, que ce sang vint comme une belle et large saignée du bras bien jaillissante. Car s'il ne venoit que comme un filet, ou goutte à goutte, il cailleroit infailliblement, comme fait pour l'ordinaire celui qui vint par la saignée du bras de cette sorte." He now adds, with his accustomed naïveté and honesty, "Or le sang menstrual ne venant jamais si abondamment que la plus mauvaise saignée du bras, *comment ne cailleroit-il pas? Et s'il vient autrement, ne doit-il pas changer le nom de flux menstrual en celui d'une vraie perte de sang?*"

Dr. Denman says, "the menstruous discharge has been considered simply as blood, though of a kind different from the general mass, as it has been observed not to coagulate. All discharges of blood, in which there were *coagula*, have therefore been distinguished from menstruation, and assigned to some other cause. Whether menstruation ought to be esteemed a secretion, similar to that made by other glands of the body, and does not coagulate because it is essentially different from

blood, *which I believe*; whether the coagulation is prevented by a mixture with the discharge from the mucous glands; or whether it is a secretion from the uterus, peculiar to that part, without analogy or resemblance to that of any other part, may be proved by future observations and experiments."

Burns says, "the discharge appears to be yielded by the uterine arteries, but it is not an extravasation or hæmorrhagy, for when collected, it does not separate into the same parts with blood, neither does it coagulate."

It would be easy to multiply authorities to the same effect, but we trust sufficient have been produced to prove that, the menstrual fluid is not "pure blood, unchanged." Now, if it be changed, we contend it must have suffered this alteration by the action of living vessels, and that this change is the consequence of that process termed secretion, since no other can satisfactorily be pointed out to produce this end; and as the onus probandi will lie with Mr. F. we shall rest this part of our cause on what has already been said.

Mr. F. says, "that the menstrual discharge differs from glandular secretions." What Mr. F. may precisely mean by this assertion is, perhaps, difficult to determine. If he mean by this to prove that, because the menstrual fluid resembles no other glandular secretion, that it is no secretion,\* he should have furnished us with his reasons for this conclusion, and not left us to rely on this sorry logic, and his mere assertion. It was incumbent upon him to prove what he has merely conjectured; he should have left no doubt of their identity. To have proved this, he should have made the analyses of secreted fluids from the most simple to the most compound; he should have analysed the blood and the menstrual fluid, and then, by these analyses, he should have demonstrated that there was no difference of result between these latter fluids, and very obvi-

\* By this kind of reasoning, it would be easy to prove there is no such process in the human body as secretion; for if the products of this process are necessarily to resemble each other, neither bile, urine, semen, nor the gastric liquor is secreted fluid, as there is not the slightest analogy between them.



ous ones between them and the secreted fluids. This would have put the matter to rest, and he might then safely have declared that the menstrual blood is "real blood, unchanged;" but until this is effected, we cannot be contented with this unqualified declaration, nor with his other, that "it differs from glandular secretions," especially as it would appear he wishes by this to prove the menstrual fluid to be no secretion.

We are of opinion that something more than unqualified assertion is expected from a man, who declares, he "always differed in opinion with medical writers on the subject of the importance of the functions of the uterus." One who contemns the opinions of all his predecessors and contemporaries, should employ something more convincing than flippant declamation.

But does Mr. F. really differ from all medical writers on some of the functions of the uterus? Certainly he does not. We have shewn that Hippocrates, two thousand years ago, was of the opinion now entertained by Mr. F. on the nature of the menstrual discharge; and from his time down to the present moment, he has been echoed by hundreds. And we are not a little surprised that Mr. F. did not take advantage of their aid, instead of bidding defiance to the whole of them; for with some, authority is paramount to fact, and by its influence he might have obtained some credence.

Within a period of a few years, attention of no mean kind has been given to the nature of most of the secreted fluids of the human body; and, by the aid of chemical analysis, we are in possession of many valuable facts on this subject; but we have still to lament, that no well conducted experiments on the nature of the menstrual fluid have yet reached us; we are, therefore, to rely on the sensible and physical properties of this fluid to disprove its identity with the common circulating mass. But these are so strikingly clear, as to induce us to rest our cause upon them, and to make us insist that the menstrual fluid is the product of the "complicated bodies called glands," and entitled, from this circumstance, to "more important considerations," agreeably to Mr. F.'s own confession.



"When the female is in health," says Mr. F. "the various secretions and this effusion go on; but on the system being reduced by disease, the glandular secretions continue, though in smaller quantity; this effusion stops, nor can it be restored till the system is replenished."

We would ask if this is a statement of facts, or mere phraseology in conformity with preconceived opinions to which facts must bend? It is true, Mr. F. may shield himself by the vagueness of language; such as "when the body is reduced by disease,"—for this may mean something or nothing; "reduced" is a very equivocal expression. But if he means by it the mere debility consequent upon an attack of an acute disease, we should without hesitation deny that "this effusion stops, nor can it be restored until the system is replenished." Every practitioner of common observation must have noticed that, in fevers of every type and denomination, and where debility had existed in all its grades, that this "effusion" did not stop when the body was "reduced," nay, very much "reduced." Friend,\* who of all others had more at stake to prove a superabundance of blood, admits, without hesitation, as true, the following objection to plethora being necessary to the production of the menstrual discharge, viz. that "in tabid persons the menses appear according to custom, nay, and sometimes to excess; in whom the quantity of blood is below a medium." This fact being notorious, he was obliged to acknowledge it, though he tortured his imagination to do away its force.

Indeed, so little is this discharge under the control of the general contingencies of the system, that we cannot affect it by any detraction of blood, however near the accustomed period it may be drawn. Nay, farther, not even long-continued hæmorrhagies will arrest this secretion in its usual march, as the following histories will prove: In the year 1787, my preceptor was called into consultation with the late Dr. Carson of this place, to a young woman who had been afflicted with a

\* Emmenel, p. 35.

periodical discharge of blood from the ear for several months ; it recurred every day about 11 o'clock, A. M. and would discharge three or four ounces of blood ere it would cease ; during the whole of this period the girl menstruated regularly, and in the usual quantity, although much reduced by her disease and remedies. We have at this moment under our care, a lady 28 years of age, who has had for the last five or six years of her life, an almost daily discharge of blood from the bowels ; she will frequently void a pint or more of blood per diem, yet she menstruates with the most perfect regularity, and is never less than six days in this condition. This lady is, as might well be expected, feeble, pale, and wretched.

Plethora is so unimportant to the menstrual evacuation, that this very condition is, in many instances, perhaps chargeable with a suppression of it. This is conformable to the opinions of many authors on this subject\*, and has been many times confirmed by our own experience. And we may here advance, without fear of error, that the blood which is capable of maintaining the general system, however small that quantity may be, will be sufficient to enable the uterus to produce the catamenial flow, provided this viscus has no other evil to contend with than scarcity of blood. And that, when this flux is interrupted by chronic disease, as phthisis, obstructed liver, scrofula, &c. it is not owing to the want of blood, but to an interruption being given to the sympathies that excite this secretion.

“ I have said,” continues Mr. F. p. 176, “ it is an accommodating organ. It can be extended till it can contain one, two, or more gallons for several months ; and, soon after being emptied, it contracts to its usual shape and size. It is on such occasions alone that it may be called a truly important organ ; on all other occasions, it is the least important of any organ of the same size in the system.”

Agreeably to this, the uterus is only “ an important organ” when in a state of distension. We presume Mr. F. means when that distension is occasioned by pregnancy. So that,

\* Riverus, Ettmuller, &c. Friend's Emmenol, p. 38.



according to this statement, when it is in a state of vacuity, it is of no kind of use. But if it was not of "importance" before it became "distended," it could not have been "distended" to have become of "importance;" for before this condition takes place, there are several *important* functions to be established by and in this viscus—first, there must be the menstrual secretion, and this of a certain kind, for the mere circumstance of an evacuation of a coloured fluid from the uterus is not sufficient, as is evinced, where this evacuation is accompanied with coagula, or a deciduous membrane, or is too sparing, or too abundant, or where the period is anticipated, or protracted. Second, there must exist in this viscus the capacity to produce the decidua, that the ovum, when deposited within it, may be properly attached and developed: for without this, impregnation could be of no avail; and instances have occurred within our own observation, where there was every reason to believe that the decidua was not secreted, or was improperly produced.\* We therefore are of opinion, that a healthy condition of the uterus is of primary importance to its being put into a state of "distension," or before it can become "an accommodating organ." Hæmorrhagy from this part never insures a fortunate issue to impregnation,† let it recur with ever so much regularity; of this we have abundant proof in all the cases where this prevails, as the woman for the time being is uniformly barren. This we ad-

\* We have seen several instances where ova were covered with an efflorescence of the spongy chorion; these ova were thrown off at different periods, from six weeks to nearly three months. No discharge of blood accompanied these abortions, at least nothing more than what the women would term "a show;" in these instances it was presumable the uterus had not furnished a proper membrane, and the chorion did not unite with it, in consequence of this imperfection. This has happened several times to the same female.

† While coagula are discharged from the uterus at the menstrual periods, the woman never becomes a mother; this may not, and perhaps does not, prevent an ovum being impregnated, yet this impregnation is never conducted to fortunate issue. The ovum may be deposited in the uterus, but it does not find that viscus in a proper condition to receive it.



vance without the fear of contradiction, as the fact is perfectly notorious. A discharge, then, of "real blood, unchanged," from the uterus, instead of the healthy product of menstrual secretion, is sure to entail an inability to procreation. Can Mr. F. be right, then, when he says, "that in all other occasions, except when in a state of distension, it is the least important of any organ of the same size in the system?"

We must also deny that the uterus\* is that "passive organ" that Mr. F. so sneeringly insists on. Its direct powers, which we have but in part glanced at, and extensive influence on other parts of the system, through the medium of its varied and extensive sympathies, make it, in our opinion, instead of a "passive," one of the most active "organs" of the body; and, although we are not prepared to say strictly with Van Helmont, "*Propter solum uterum mulier est, id quod est,*" yet we cannot shut our eyes against the evidence of every day's experience, that much, very much, depends upon the healthy condition of this viscus. Shall that be called a "passive organ," which has, if we may so term it, the care of the reproduction of our species? And has it virtually less than this, when a derangement of one of its functions shall circumvent this great object of human concern? Did Mr. F. really ever know an instance, wherein the catamenial discharge was interrupted as an idiopathic disease, fail, if long continued, to involve the female in ill health? Did Mr. F. ever know an instance of impregnation where amenorrhœa existed? Should Mr. F. answer these questions in the negative, as we presume he must, he cannot say the uterus is a "passive organ," but must agree that the uterus, *in a state of health*, is absolutely essential to a state of health.

Mr. F. says, "when the functions of any organ are destroyed, the organ may be said to be destroyed; it then exists as no better than if removed from the animal. We have daily experience of the functions of the uterus being destroyed in

\* By the uterus we would mean the uterine system; ovaria, tubes, &c. as they cannot be considered but as forming a whole.

the largest and the smaller domestic animals. So far from the animal being injured with regard to health, that it grows fatter, and thrives better, is happier without, than with these functions. The organ has been removed by the knife without occasioning the death of the animal. So much for its importance !”

We agree with Mr. F. that “when the functions of any organ are destroyed, the organ may be said to be destroyed;” but is this the subject in question? Certainly not. Mr. F. does not ask, “if we destroy the functions of the uterus, is that uterus, as regards the intention of its formation, of any further use?” No; he endeavours to prove, it is of no use while it possesses all its powers. But we contend that, upon the due and healthy performance of its functions, the health of the system at large very much depends. Besides, is the utility of the parts of the system at large to be determined absolutely by their loss? Will it be contended that an arm, a leg, an eye, a spleen, &c. are of no use, because the animal has not died, or even suffered the loss of health by their removal? Is this correct reasoning? Does not Mr. F. attempt to prove too much, thereby prove nothing, when he says, “we have daily experience of the functions of the uterus being destroyed,” and, “so far from the animal being injured with regard to health, that it grows fatter, and thrives better, is happier without than with these functions?” Does he not attempt by this to prove the uterus is injurious to the animal, and indirectly declare, he could manage “these matters” better than an all-wise God, who had the framing “of all things,” and who did, with infinite wisdom, frame “all things?” Did Mr. F. ever read the fable of the philosopher and the acorn? An omnipotent and omniscient God knew less well how to make his creatures happy, than our author; for Mr. F. would not have had the *cruelty* to give uteri to females, as they would “*thrive better,*” and “*be happier*” without them!

Pray, what proof has Mr. F. that an animal is happier after it has been deprived of its uterus? Has he ever been able satisfactorily to make the enquiry?



"I will place," continues Mr. F. "this subject in another point of view. The female enjoyed the best health and spirits from birth, till she arrived at the age called of puberty, suppose fifteen. At this period an effusion of a small quantity of blood took place from the organs of generation, and which returned, at periodical times, till she arrived at another age, say forty-five; the effusion then ceases at once, and never returns. What was the consequence? Nothing at all. Did she fall into a bad state of health? No; she continued in good health for thirty years more, and died of old age. Instead of suffering any injury from the cessation of this effusion, she was happier and more comfortable without it. I now ask a question, I hope without any impropriety, as it is chiefly to gain information, of what use or importance was this effusion for the best thirty years of the female's life? I confess I cannot see any; I must be understood to mean with regard to health or disease."

The whole of this long quotation, we conceive, can be answered in a very few words. The uterus begins to perform its functions at the period of puberty—the healthy performance of these functions is essential to the great object for which this organ was designed—it performs these functions agreeably to the design of God, for a limited time, and they then cease, agreeably to the same design; and in all this we perceive marks of infinite goodness; for it was not intended this secretion should continue beyond the time at which a woman could have a reasonable prospect of rearing and protecting her family. And its ceasing at this period is the strongest proof of its utility during the period of its flow. And Mr. F. must be well aware he has taken an extreme case, when he conducts a woman from the moment of her birth, and makes her represent the whole sex, to the instant of her death, in very advanced age, without the individual having suffered some inconvenience, should there have been, during any period of that time, any morbid affection of the uterus; and if there was none, it would only prove that, when this part is in a state of health, the woman cannot suffer from this cause.

Philadelphia, 29th Nov. 1818.

*An Account of the Epidemic Fever which prevailed in that district of Virginia called the "Northern Neck," in the year 1814—1815. By the late Thomas B. W. Gray, M. D. of Tappahanock, Vir.*

MY not having a thermometer and barometer deprives me of the opportunity of affording to my readers the information which might have been derived from an accurate knowledge of the state and variations of the weather preceding and accompanying this epidemic; but this deficiency I may perhaps supply in some degree, by observing that there occurred an uncommon and excessive fall of rain during the early part of the year, which was succeeded by an equally uncommon and long continued drought, attended with excessive heat.

Intermittent and remittent fevers, in all their peculiar forms, visited us this season prematurely; and in almost every instance assumed an unusual obstinacy, which often protracted the complaint till the alphabet of remedies was nearly exhausted; and even after the paroxysms were suspended, there remained in the system an unusually strong propensity to a relapse, which was readily invited by the slightest variation of weather or dress, the least exposure or fatigue, or any imprudence in diet or drink. Rising still higher in the grade of disease, the bilious fever next made its appearance, borrowing as it progressed, a malignancy foreign to its natural character, which cloven feature always discovered itself by a peculiar tendency to the brain, producing stupor, delirium, and phrenitis. I have thought fit thus to sketch a miniature picture of the predecessors of the epidemical monster of my subject, that my readers might be the better able to analyze or decypher his mysterious genealogy. This disease is very generally preceded by a chill, and this chill is almost universally felt between the hours of one, two, and three o'clock in the morning; indeed so punctually true is this symptom to its appointed



hours, that I regard it as the fixed premonitory sentinel, which faithfully ushers in the true alarm.

The fever which succeeds the chill is not uniform; sometimes it is high, at other times it is scarcely perceptible; sometimes it is centrifugal, at other times it is centripetal. The pulse, in almost every case, is small, weak, and not corded, and frequently irregular, creeping, or intermitting. In some, the first approach of indisposition is announced by a painful, needle-like pricking in the throat, with urgent thirst; in others, a painful and difficult deglutition, with hoarseness of voice, precedes the attack. Immediately after the rigor, some are affected with pain and stiffness of the neck, with inflammation and swelling of the tonsils, the uvula, the velum pendulum palati, the maxillary, the parotid, and even the thyroid gland. A violent cutting, corded pain, beginning from the upper edge of the right hip bone, rising and extending across the breast, producing excessively oppressed shortness and difficulty of respiration, accompanied with the most alarming undefined sensation at the præcordia, are often the earliest, as well as the most fatal premonitions of illness. In some cases, there occurs not only a pain in the breast, but in the side, shoulders, and small of the back, attended with such a spasm and rigidity of the muscles, as to draw the whole body backwards, as if the person was affected with opisthotonos, producing such a fixed position, that the body can neither be turned to the one side nor the other, or enjoy a recumbent situation.

Sometimes the face and eyes are affected with violent inflammation and swelling, which are soon followed by confusion of thought, inarticulate speech, indistinct vision, and furious delirium. Rheumatic and paralytic affections of the limbs are also occasional attendants of the disease. The thyroid gland, in some instances, swells to such a surprising extent as to resemble the disease of bronchocele; and the enlargement of the parotids often gives the appearance of the mumps. In some cases the tonsils are so enlarged as nearly to meet each other, hindering deglutition, and rendering respiration extremely laborious.

The uvula is not only generally very greatly swelled, but remarkably elongated ; having also at its extremity a remarkable transparent pellicle, resembling a drop of water hanging from the point of an icicle. This elongation of the uvula, in some few instances, is so extremely great as to jeopardise the life of the person upon every attempt to swallow ; and I am disposed to believe that some of the very sudden deaths which have occurred, are to be ascribed to suffocation, happening by the falling of the preternatural uvula into the epiglottis, or upper part of the trachea. The tongue is always extremely loaded with a tenacious covering of white fur, particularly that half of it next to its root. The breath and perspiration of the diseased person have, in most instances, a peculiar nauseating fœtor. A constant screatus attends, with a tough and difficult discharge. In some instances, persons are affected with most of the characteristic features of this complaint, and yet do not exhibit any sensible marks of fever at all. Some are urgently troubled with pain in the abdominal region, attended with dysenteric gripings, and great looseness. Such were the usual and general symptoms of this disease, and such its different modes of attack, so far as it displayed itself to my observation, in the cases within the sphere of my notice. The true origin and nature of this daily-travelling, wide-spreading, and fatal epidemic, remain yet unknown ; but to the mind of the philosopher, the physician, and the philanthropist, it certainly presents a theme of enquiry worthy of their most earnest and serious investigation. From the heterogeneous symptoms of this disease, and its multifarious forms of attack, I am disposed to regard it as the epitome of all the other fevers ; and to use the true and emphatic language of the illustrious Doctor Rush, "it is the monarch of disease, which makes every subordinate affection do homage to it, by wearing a part of its livery." The universal fatality of this disease was not more remarkable than its unexampled rapidity.

In many cases, the interval from the first moment of complaint, till the moment of death, is not extended beyond the fifth, sixth, seventh, eighth, ninth, tenth, eleventh, or twelfth



hour; but generally, the disease runs out its course in one, two, or three hours. In some few instances it spins out its length to the fifth or sixth day, which chronic duration, although it augurs well, does not exempt the patient from danger. Sometimes the mildness of the affection would seem to speak it to be nothing more than the ordinary fixed fever of our climate; but at other times it only wants the black vomit to make it the yellow fever of populous cities; or the petechial purple spots, with buboes, to make it the pestilential plague of Egypt. For some weeks after its first introduction into this district, its ravages were confined almost exclusively to the white adult subjects, belonging to the lowest rank of society, whose profession and situation in life exposed and subjected them to cold, to want, and unwholesome diet. In a short time it embraced, with augmented malignancy, the African tribe; and next its monarchical usurpation made no discrimination of persons, or rank or colour.

At first it looked like an endemical disease, visiting particular neighbourhoods, or particular counties; but it soon threw off its insulated character, and was confined neither by neighbourhoods, nor counties, nor even states; but, by its hourly spreading, soon became a continental scourge.

What is the constitution of the atmosphere which generated this disease? Or is it foreign and imported? What is it that propagates it? What is it that makes it so fatal and so sudden? These are not speculative enquiries, they are of great practical importance; for if solved, they would certainly direct us not only to a more successful mode of cure, but of prevention.

At first I began the cure of this disease by blood-letting. I was led to this practice, 1st, by the inflammatory symptoms which marked the epidemic; 2d, from the suddenness of its attack; 3d, from the state of the pulse, which I judged to be of the oppressed or suffocated kind; 4th, from the degree of dyspnœa, and the acute violence of the pain; 5th, from the bright scarlet redness of the internal parts of the mouth and throat; 6th, and lastly, from the appearance of the blood when

drawn, which always exhibited much of the buffy coat, with cupped edges, and the other usual marks of existing inflammatory action. But, notwithstanding all these warrants to the letting of blood, I had the mortification to find the practice almost uniformly hurtful. The pulse did not rise, as I expected, which speaks its smallness to be the vibrations of sudden prostration, and not suffocation. Neither the pain, nor the cough, nor the dyspnœa was removed or relieved by this evacuation as in former seasons; but in almost every case where it was employed, the strength of the whole system suddenly sunk below the power of being resuscitated. Unwilling to yield up this remedy, seemingly so natural, and so strongly indicated by the appearance of the disease, I adopted the Riverian method of bleeding often and sparingly; but here again I had the disappointment to find that this mode was marked with no better success than the other more sudden and copious discharges. Notwithstanding my general disapprobation to general bleeding in this distemper, yet in cases where the inflammation and swelling were confined chiefly to the external parts of the face, neck, and head, or where the sick were affected with confusion of thought, delirium, or phrenitis, I have witnessed immediate good effects from opening the temporal artery or the jugular vein, or from cupping.

Constrained to sheathe the lancet from a corrective conviction of its inefficiency, (taught me by actual experience,) I next met the disease, first with an emetic, regardless of the form in which it made its attack. The quantity of bile discharged was in most cases unusually copious, and often considerably vitiated in its quality. Accompanying or immediately succeeding the emetic, a blister was applied to the chief seat of the inflammation and pain; and when the pain shifted from place to place, it was constantly and promptly pursued, and wherever it fixed itself, a blister was still directly fixed opposed to it. Cathartics should next succeed, and of this class of remedies, calomel and jalap were found often to be extremely salutary; but in many instances the milder purgatives, such as salts, senna and manna, castor oil or jalap, and cream of tartar, were pre-



ferable, and more suitable to the prostrated strength of the patient. In many of the sick there occurred the most uncommon and obstinate insensibility of the bowels to the action of purgative medicines, and in some few cases I have heard of this insensibility continuing invincible till death. Instances of inaction or torpor of the stomach to the force of emetics, have also occurred in the disease; and, indeed, in most cases it was found necessary to give of each class of evacuants more than a common dose to produce the common action. Sudorifics were also very useful auxiliaries in the management of this disease; such as the seneka, the serpentaria, the pulvis Doveri, and the different preparations of antimony; but, as the complaint is often so very sudden in its attack, and so very short in its duration, as to preclude the administration of these remedies, is it not highly probable that the judicious and timely use of Dr. Jennings's patent bathing machine would come in as the best succedaneum? In all fevers nature makes an effort to relieve herself; and, in this effort, she generally chalks out her chosen way of cure; and to the end of obtaining this instructive pilot, I have waited and waited with the sleepless eyes of a sentinel for nature's index in this disease; but, after the most faithful servitude, all that I have gained is, the imposing belief, that, although she does not speak right out, as on some occasions, she implies, by strong intimation, that the virulence of the infectious distemper should be distilled off through the glands of the salivary system.

This I infer, 1st, from the universal tendency which prevailed in the disease, and in that season, to affections of the glands of the throat, face, and neck; and, 2d, from the inordinate flow of the salivary and mucous discharges.

Guided by this hint of nature's, I have, particularly in all cases where danger was manifestly apparent, assisted the evacuating remedies by the most prompt and powerful means of creating a salivation; and, indeed, in some instances, where the case was extremely urgent, or the call for medical aid had been unhappily prolonged, I have begun with the mercurial course, without any previous evacuation, and with decided advan-

tage. Where danger threatens, the salivation must be effected with all possible quickness, as the disease will not wait the common time ; for this purpose, in addition to the rubbing of the gums with calomel, and axillary and inguinal glands with the unguentum mercuriales, I would also recommend the exhibition of ten grains of calomel, with a suitable proportion of opium, to be given every two hours, until decided symptoms of the mercurial action appears. In many cases, as the affection of the throat is the most prominent and distressing symptom of the disease, becoming, as it were, the centre to which all the complaints and fearful alarms of the patient constantly gravitate, it is of great moment to relieve that part as speedily as possible ; but never to suffer its urgency to throw us off our guard, and make us unmindful of the general affection, of which this happens to be only a striking feature. The gargle which I have found to be most efficacious in producing a relief of every part of the throat, is the well-known pepper gargle, with the addition of a decoction of red-oak bark, alum, and myrrh. With this preparation, the patient, if he can, is to gargle every fifteen minutes ; but as this exertion is often denied to the afflicted sufferer, on account of either a rigidity of the muscles of the neck, or the pain of a blister, a sponge mop, attached to a pliable piece of whale-bone, will be found to be the easiest and most eligible mode of clearing the throat. But notwithstanding the efficacy of the gargle in removing the inflammation of every part of the fauces and throat, abating the pain and the difficulty of deglutition and respiration, my experience would warn the practitioner not to be too sanguine either in his hopes or his prognostications ; as in many instances this sudden abatement or total absence of distress, is not a cure, but a metastasis of the disease ; for all these favourable symptoms are frequently quickly succeeded by a corded tightness across the throat, accompanied with the undefined painful sensation at the præcordia, with short respiration, and a fluttering intermitting pulse, which is soon stilled in death. Immediately after the evacuation of the stomach and bowels, whether salivation is or is not to be attempted, I would strongly re-



commend the use of tonic remedies, such as a mild infusion or decoction of bark, or columbo, with the serpentaria; or if these should be judged inadmissible, advantage will be found in the use of chamomile or quassia tea. Wine, good old spirit, camphor, ether, and volatiles, are all useful and essential in alternation or combination with the tonics and bitters. There occurred two particular forms or states of this disease, which appeared to be peculiarly obstinate and fatal; the first was, where the force of the morbid excitement fixed itself upon the lungs, the side or region of the liver, producing the noted feeling at the præcordia, with the usual symptoms of pneumonic inflammation; and the second was, where the brain was affected with irregular thought, or delirium, attended with indistinct vision and imperfect articulation. In some instances I have quieted, in a measure, the restless delirium, by pouring cold water over the head. What would have been the effect of the cold affusion, as prescribed by Dr. Currie of Liverpool? or would it have been at all admissible in this fever, since, from the pulse and the heat of the system, as judged of by the touch, we should run counter to his golden maxims in its application? and besides, in the disease under notice, there existed many and considerable local affections, which also, according to the same author, proscribe the remedy. Like all other epidemics, this disease discovered a strong disposition to absorb or neutralize all other affections which might want to appear during its reign; and, from clinical observation, it is manifest to me, that the phrenitic, the pleuritic, the catarrhal, the anginose, the rheumatic, and the paralytic states or forms of this malady are all purely symptomatic of the original, the unknown fever; and in consequence thereof, we should not only proportion the degree of our curative means to existing symptoms, but aim at the removal of the main idiopathic disease.

The prophylactics in this disease, as in all other infectious disorders, should begin and end with cleanliness. This is the first and the greatest preservative. The effluvia arising from the volatile particles of camphor, asafœtida, onions, garlic, tar, or sulphur, confined in bags, and worn about the neck, have

no doubt some effect in keeping at bay, or neutralizing the acrimonious infectious particles, which circulate in the room of sickness ; and in addition to these, a free and constant ventilation of the room, smoking, or chewing, or snuffing of tobacco, may be used as auxiliaries, with the frequent burning of tar or vinegar ; or the more costly use of the sulphuric or nitric acids poured upon common table salt. I have thus imperfectly and crudely attempted to sketch a succinct history of this disease, as it discovered itself in the limited districts of my notice ; but a volume might be written upon the afflicting and diversified distress which followed its ravages in almost every family in every county. The rehearsal of the deaths, and the words of the dying, and the wo-felt panic of the public mind, I leave to superior abilities and an abler pen. If what I have written sheds but one faint glimmering ray of light upon this terror-spreading disease, this destroyer of man, my reward will be great and full. I have written not to give, but to elicit information.



*On Cantharides.* By Joseph Klapp, M. D. one of the Physicians to the Infirmary of the Philadelphia Alms-house.

AFTER having frequently observed the occurrence of abortion during the treatment of the fevers and other complaints of pregnant women, in which blisters had been freely employed, I was led to inquire after the cause of this ; and, on due reflection, I think I have reason to conclude, that those events, so materially augmenting the danger of cases, were often attributable to the internal effects of the cantharides. Such an impression of course had the effect of occasioning a more sparing use of the remedy in the kind of cases alluded to ; and I am of the opinion, that, since making this alteration in my practice, miscarriages have not so often happened to those under my care. It is natural to suppose that this experience would excite a query on my mind, whether or no cantharides might not be advantageously directed in those torpid states of the uterine circulation, which are supposed to take place in several species of amenorrhœa? To decide this question, apparently of importance to medical practice, I had recourse to Bacon's rule, *fiat experimentum*. What has been the result of my researches the cases presently to be related will shew ; and very respectfully it shall be submitted for my professional brethren to determine whether or not I have succeeded in detecting in cantharides an emmenagogue property.\*

\* Since the materials of this essay were collected, I was desirous of knowing whether an emmenagogue property in cantharides was mentioned in medical authors. In the course of the search, I was agreeably surprised to find that this was the case. Cursorily it is adverted to by both Lewis and Murray. By some later writers the article is merely enumerated with other emmenagoga. With a single exception, however, I cannot find on record any particular experience of its efficacy, and I am half inclined to suspect that the remedy was, in the first place, indebted to authors for its distinction as an emmenagogue, more from a supposition that it might be possessed of that quality, from the irritation which it is well known to produce about the urinary organs, than from any actual, well-ascertained experience of its usefulness in amenorrhœa. Be this as it may, I was certainly led to the em-

In exploring the concealed properties of medical agents, or in attempts to establish rules of practice, the bringing into view a series of cases cannot otherwise than afford much assistance to the inquiring physician. The publication of single cases is not calculated to be so useful. They are too limited in extent, and of course afford too confined a range of observation for the deduction of general practical utility. But a group of cases, faithfully related, will extend to others, of less experience on the subject, a fair opportunity of judging for themselves; and in this way, with a strict regard to veracity and precision, we shall mutually aid each other in unfolding the successive pages of the great book of nature.

But I must be permitted again to repeat the sentiment, that to be of real use, cases must be narrated most faithfully. To modify or warp facts, with the selfish view to favour certain theoretical notions, must not only tend to keep one's self in darkness, but would constitute an act deserving of the severest reprehension. In the preface to his *Histories and Reflections*, the late Dr. Ferriar expresses his detestation of that want of professional honesty and candour, with which some authors are chargeable, in adapting their detail of facts in such a way as would best correspond with their favourite theories. I cannot avoid remarking, that I fully approve of, and even admire the passage alluded to, because it evinced, in that very distinguish-

employment of it in the way stated, without knowing at the time that it had been either mentioned as an emmenagogue, or made use of for such purpose by any one. In justice to Dr. Chapman, the present eminent professor of the institutes and practice of medicine in this university, I feel it my duty to state, that it does appear from a note of his in Burn's obstetrical work, that he has had some experience on the subject. "In suppression of the menses," says Dr. Chapman, "evidently connected with atony of the uterus, I have had some success with the tinct. cantharides. I give it in the dose of 10 drops, morning, noon, and night, gradually increasing the quantity till it amounts to two drachms in the day. The most obvious effects of this medicine, which I have observed, are an increase in the force of the pulse, and a very copious flow of urine." I never saw this note until I had used cantharides extensively as an emmenagogue, and it affords me no small satisfaction to have it in my power to corroborate my experience by authority so respectable.



ed English physician, a strong paramount regard for truth, and a most hearty contempt for every species of professional deception. "A medical writer," said Dr. Ferriar, "who suffers personal considerations to warp his report of facts, is the worst of criminals." And it might have been added, when convicted of so shameful a crime, it would be no more than a well deserved punishment, to have him pointed out as an enemy to true science, idly preferring fictitious to real knowledge.

With pleasing associations, I can still recollect some remarks on this subject by the late Dr. Wistar, in his introductory lecture. "The temple of medicine," said that eminent and ever to be regretted anatomist, "is open for the admission of all, and when you have arrived there, embrace every opportunity of learning truth, no matter who speaks, or who sits beside you." Truth should never be deserted. It should be our chosen theme, and our glory to the last. Both science and humanity are always best promoted by a just regard for the solemn and sacred nature of professional duty.

#### CASE I.

A. L. between 17 and 18 years of age, contracted a severe cold in the month of March, 1817, which affected the breast particularly, and in a short time assumed the form of phthisis. During the advancement of the disease, the following were the principal symptoms, viz. a cough, with muco-purulent expectoration, soreness and pain in the breast, hectic fever, a spitting of blood, and amenorrhœa. For relief from these complaints, the system was first reduced, by bleeding, purging, and other antiphlogistic means; afterwards she was salivated, and sent to the country for the benefit of fresh air. By these steps she was greatly relieved from her phthisical complaints, but the menstrual function was not reinstated; in consequence of which, in September, just six months after she had become affected with amenorrhœa, she was ordered the use of the tincture of cantharides. She began with twenty drops three times a day, and after having taken in all two ounces and a half, the

menses made their appearance. Up to the time of noting down the history of her case, which was in the beginning of December, she has continued to menstruate regularly. Her general health seems improved since this change has been effected, and the hectic fever has disappeared, though she still continues to cough.

December, 1818. In the course of the spring this young lady had her complaints renewed, and in June she died with a well marked phthisis.

#### CASE II.

R. M. aged 20, in consequence of having got her feet frequently wet, suffered a suppression of the catamenia in October, 1817. From this date to the time of her relief, she was more or less affected with the following complaints: Oppression about the breast, vertigo, pain in the head, in the back part of it in particular, stupor, and with irregular paroxysms of fever, &c. The tincture of cantharides was the first remedy prescribed; she began with fifteen drops at a dose, three times a day. This course was continued, gradually increasing the dose, until four ounces in all were taken, without producing the desired effect. It was then omitted, and the rubia tinctorum resorted to, which was given in doses of a scruple in substance, four times per day. This second remedy, aided by frequent pediluvia, hot teas, &c. was continued till fifty doses were taken, without experiencing any advantage. About this time the vertigo and pain in the head were unusually severe, on account of which it was conceived necessary to omit entirely, for a time, the further use of emmenagogues, and to have recourse to such remedies as were calculated to remove the head affection. The pulse being active, evacuation was clearly indicated, accordingly she was at different times bled to the extent of forty ounces from the arm, she was also cupped upon the forehead and temples, blistered twice upon the back of the neck, and took several purges. By these means the vertigo and pain in the head were removed, and the pulse was rendered soft and weak.



Supposing the system now to be properly prepared for the action of emmenagogues, on the 10th of January, 1818, she began with the tincture of cantharides, and on that day twenty-five drops were taken; on the 11th, she took seventy-five drops at three doses; on the 12th, fifty drops; and it was then discontinued, the menses having appeared without the intervention of strangury, or pain of any kind; on the 13th she continued to menstruate, also on the 14th and 15th, when the discharge ceased.

This case shews how necessary it is to attend closely to the state of the system, previous to the administration of emmenagogues. When I first began to prescribe for the patient, the vertigo was not considerable, nor was the pulse possessed of much activity, and I entertained an expectation of being able to relieve her without first reducing her by evacuations, but the sequel of the case proved that, in this opinion, I was mistaken. The emmenagogue effect of agents is weakened, and, in some instances, entirely destroyed by the several local complaints with which amenorrhœa is occasionally complicated. The case now under consideration furnishes a proof of this. After the system had been subjected to the process of preparation, 150 drops of the tincture of cantharides readily produced an effect, which four ounces of that article, and fifty doses of madder, were previously incapable of doing. It is hoped that this statement will serve as a useful caveat to others.

## CASE III.

Mrs. A. aged about 20 years, became affected with amenorrhœa while under treatment for a different disease. On the third month of the suppression, she was directed to take fifteen drops of the tincture of cantharides in a little sweetened water, three times a day. After taking the second dose, pains were felt, portending an irruption of the menses, and shortly afterwards a slight discharge ensued, but soon ceased. On the succeeding day the menses again appeared for a short time. The drops were directed to be continued in moderately in-

creased doses ; and on November 22d, 1817, the fifth day of using them, much pain was excited about the sacrum, hips, and regio pubis ; and the patient, judging from her feelings, expressed a belief that the wished-for effect would shortly take place. On the 25th, though considerable pain, evidently uterine, had been constantly experienced, the discharge had not yet occurred. The medicine having produced a partial effect, and fearing it would be improper for the patient longer to omit the use of her other remedies, it was concluded to discontinue for the present the use of the cantharides. On the 16th of December, four days anterior to Mrs. A.'s customary time of menstruating, the cantharides were again resumed, and on this day 15 drops were taken ; on the 17th, 60 ; on the 18th, 60 ; on the 19th, 75 ; on the 20th, 90. The pulse this day was 100 in a minute, and weak ; as yet no other effect had been produced but some slight pains about the hips ; on the 21st, she took 105 drops ; on the 22d, 105 ; on the 23d, 105 : when the menstrual secretion had not appeared, pain was complained of in the back, and the pulse continued weak and frequent. The patient now and then experiences shooting pains in the direction of the uterus, and complains of a slight degree of strangury. On the 24th, she took 120 drops ; on the 25th, 120 ; on the 26th, 120 ; during the evening of this day the menses appeared, and the medicine was omitted. On the 27th, she was nearly free from pain, and the catamenia continued freely. This day her general health is unusually promising, so much so as to induce the physician in attendance with me to remark, that for a considerable length of time he had not seen his patient look so well. 30th, though, as was stated, the menstrual secretion was ample on the morning of the 27th, it suddenly ceased on the ensuing night without being followed by any injurious effect. On the 1st of January it again appeared for a short time.

It was suspected that the medicine had been too quickly discontinued on the effect being excited, and that this might be the cause of the menses not having continued the usual number of days. The patient was therefore advised to re-



sume it again a few days previous to her next monthly period, and then not to discontinue it so soon on the occurrence of the discharge. Accordingly, on the 17th, she took 60 drops of the tincture in three doses; on the 18th, 75 drops; on the 19th, 90; on the 20th, 105; on the 21st, 120; on the 22d, 135; on the 23d, 135; on the 24th, 135; on the 25th, 135; on the 26th, 30; on the 27th, 60.

The following were the effects produced by this last trial of the medicine: on the 19th, the patient complained of pain in the back; on the 23d, a slight strangury ensued, and on the 25th, in the morning, the menses appeared. Mrs. A. was directed to continue with 45 drops of the medicine three times a day, for a day or two more, with the view to a continuance of the menses. On the 26th, the degree of the discharge was such as to induce the patient to take a single dose only, and that consisted of no more than thirty drops. The menses continued on the 27th and 28th, and then ceased.

#### CASE IV.

A. P. between 15 and 16 years of age, in consequence of getting her feet frequently wet, experienced a suppression of the menses in April last. Shortly afterwards her general health became impaired; she complained of pains in the head, and in different parts of the body, in the back in particular; she was much troubled with vertigo, loss of appetite, &c. In the last of August, 1817, my advice was solicited, and believing the pulse to be in a favourable condition for emmenagogues, I directed 25 drops of the tincture of cantharides to be taken three times a day in sweetened water. After using the medicine a week, the pain of the back and hips was much increased, and a menstrual discharge of several days continuance was excited. Since which time she has continued to menstruate regularly, and has remained in good health.

## CASE V.

M. C. aged 23 years, in August, 1817, contracted an intermittent of the tertian kind, and in consequence became affected with amenorrhœa. In November and December following, she suffered two or three attacks of an acute disease of the breast. Finding that though the latter disease could readily be relieved by the common remedies, it would, after a short time, return again with unfavourable symptoms, it was conjectured that the suppression of the menses might be the cause of this; and accordingly, on the 12th of December, 1817, I undertook the removal of that obstruction, by directing the patient to take twenty drops of the cantharides three times a day. At the time of this prescription, she complained of a sense of oppression about the breast, of a bad cough, the pulse was soft, and 82 per minute. She was entirely free from pain about the pelvis, and had been for a length of time.

On the 13th, she complained of some pain in the loins; on the 14th, the disease of the breast became more unfavourable, the cough in particular was worse, the breathing was oppressed, and the matter of expectoration was tinged with blood. The pulse rose to 104, and the tongue was rather foul. She was directed to increase the medicine to 30 drops a dose, and some medicine was prescribed to appease the cough. 18th, the symptoms of the breast disease appeared to have been mitigated. The dose of the medicine was increased to 35 drops three times a day. 20th, the cough and difficulty of breathing have considerably abated; the pulse is now but little excited. She complains of a constant pain about one hip, and says she has a sense of weight and fulness about the lower part of the abdomen.

24th. The medicine has been continued regularly, but as yet no other effect has been produced by it, than that stated in the last report. Directed 40 drops three times a day.

26th. Remains much as on the 24th; the medicine to be continued, and the patient ordered more exercise.



28th. The breast complaint has nearly subsided. The menses have not appeared ; 40 drops three times a day, to be continued.

30th. Yesterday, for the first time, a slight strangury was felt, and the patient is sensible of a weight about the uterus.

January 3d. The strangury continued.

6th. The menses appeared. In a short time afterwards the patient's general health was sensibly amended. On the subsequent month the catamenia recurred at the usual time, without any assistance from medicine. On the 27th of February, the patient assured me that her health was nearly as good as it had ever been.

CASE VI.

S. R. aged 17 years, five months previous to her coming under my care, while very warm from exercise, sat down upon the damp ground, and in consequence became affected with a suppression of the menses. The following symptoms attended her complaint—headach, much pain in the back, a sense of general debility, and an œdematous swelling of the feet and legs. On the 12th of November, 1817, my assistance was requested, and I ordered fifteen drops of the cantharides to be taken every morning, noon, and night. This course was continued, gradually increasing the dose, until two ounces of the tincture had been taken. The following effects of the medicine were remarked. Much pain was produced in the back, and left iliac region ; and as this came on, the headach and other unpleasant feelings, with which the patient had been affected, perceptibly abated. A slight strangury often occurred, and on the 2d of December the menstrual secretion was excited. It continued four days.

CASE VII.

On the 29th of May, 1817, I visited Miss T. aged about 21 years, who gave me the following account of her indisposi-

tion. In August last, while labouring under her periodical complaint, she contracted a severe catarrh, since which time the menses have been suppressed. In a short time she was sensible of an unfavourable change in her general health. She was troubled with pain in the head and vertigo, lost her appetite, her strength declined, and she soon became emaciated. Within the last three months, the chest appears to have been the principal seat of her complaints. She has a short, dry cough, nocturnal perspiration, chills, and a quick, weak pulse. She has a fixed pain at the lower end of the sternum, and has experienced several slight attacks of hæmoptæ. Her family are predisposed to phthisis, her father, sister, and brother having died of that complaint. I prescribed a course of sulphate of iron, with frequent immersion of the feet in warm water. In ten days madder was substituted in the room of the chalybeate, the patient being no better. The last remedy was as unsuccessful as the first. The tincture of cantharides was next ordered. She commenced with twenty-five drops three times a-day. On the evening of the second day, pain took place in the back, with some strangury. On the third day the menses appeared, with considerable pain about the back and hips. In two days more the pain ceased, and the menstrual discharge continued. For several days the patient has been much harassed with headach. Since the return of the menses this has entirely left her. Precisely two hundred and twenty-five drops of the cantharides were taken before the intended effect was produced; and when the menses appeared the medicine was discontinued. In the course of a week or two the patient acquired a very healthful appearance; and her spirits were much raised with the prospect of having her general health again established.

On my mentioning to Dr. Mungies of this city, the success which I had had with cantharides in amenorrhœa, he politely engaged to make trial of it. Some time afterwards, this very respectable physician communicated to me the two following cases.



## CASE VIII.

Miss —, aged twenty, during the summer of 1816, while on a visit to the country, became affected with an intermittent, which occasioned a suppression of the menses four months. The fever was removed by the use of the cinchona. The uterine obstruction was afterwards prescribed for. Dr. Mungies thought proper to make trial of the pol. seneka, which was continued until half a pound was used, without affording any relief. A diarrhœa supervened, which the Doctor subdued with opiates and astringents. He then directed twenty-five drops of the cantharides to be taken three times a-day. In two days the menses appeared. The effect was complete, after which the medicine was discontinued.

## CASE IX.

A girl, habitually subject to menstrual irregularities, became a patient of Doctor Mungies, for amenorrhœa of three months continuance. He ordered the cantharides to be taken in doses of 25 drops, three times a day. After using 90 drops, menstruation was excited. The discharge continued for several days.

The two next cases occurred under my own notice.

## CASE X.

Miss —, aged 17, three months ago, had the menses suppressed by a fever, since which time she has been indisposed, with the symptoms usually attendant on amenorrhœa, such as headach, vertigo, loss of appetite, chills, and fever occurring irregularly. The pulse was natural. For the relief of the patient, various family remedies had been tried previous to my seeing her. Bathing the feet, hot teas, chamomile, pennyroyal, &c. Hooper's pills, and the like, had been freely and unsuccessfully resorted to. On the 5th of December, 1817, she began to take 20 drops of the tincture of cantharides, three

times a-day. On the evening of the 7th, she complained of pain in the back and hips, and in a few hours afterwards, the menstrual discharge appeared. The medicine was omitted. She continued to menstruate until the night of the 9th. Of the cantharides she took 120 drops only. The patient has since perfectly regained her health.

## CASE XI.

A. M. 24 years of age, of a plethoric habit, in April or May, of the year 1817, in consequence of a bad cold, became affected with amenorrhœa. Shortly afterwards she was affected with erratic pains in different parts of the body, she lost her appetite, the urine scanty, and both the legs and abdomen became dropsical. In the latter part of October she came under my care, and after having removed the dropsical part of her disease with diuretics, she was put upon a course of cantharides. The pulse was favourable for the latter prescription. She began with ten drops three times a-day. After the third dose, the menses were excited, without pain of any kind, and continued to flow for several days. She has since had no return of the dropsical affection, nor of any of the other complaints which had been produced by her five months suppression.

The following case was treated in the Alms-house, and though the principal disease with which the patient was affected, was not removed, it will, notwithstanding, serve to shew the operation of cantharides as an emmenagogue. For the account of the case, I am indebted to Dr. Ramsey, then senior pupil in the house.

## CASE XII.

E. C. aged 19 years, of a plethoric habit, was attacked four years ago with epileptic convulsions. Their first occurrence was during one of her menstrual periods, and since that time she has been subject to their daily attacks, only excepting



one interval of eight days, and another of six weeks duration. She has menstruated but four times since she has been afflicted, and then only in very sparing quantities. Her fits are most numerous, and most severe at the catamenial periods. On the 7th of July, 1817, she had a slight menstrual discharge. On the 7th of August, she had several severe convulsions, complained much of pain in the head and back, with a sense of weight, and uneasiness in the lower part of the abdomen. As these circumstances were considered indicative of a disposition to menstruate, a gentleman, who was experimenting with the ergot, directed it for her, in doses of 20 grains, to be repeated every night, and at the same time pediluvia, and some other accessory remedies were resorted to. These, together with the ergot, were discontinued on the 10th, as they had produced no effect, and the favourable symptoms had subsided. Nothing further was done for the patient until the 14th, when Dr. Klapp prescribed the tinct. cantharides, in doses of thirty drops, to be repeated three times a-day. At two o'clock, P. M. on the 14th, she took the first dose of her medicine, a second at night, a third on the morning of the 15th. These three doses excited such severe strangury, that it was deemed most prudent to abstain from the farther use of the medicine. Her pulse was much excited, her skin hot, and a severe pain of the head came on. Her menses began to flow on the afternoon of this day, that is, the 15th, and they continued to flow copiously until the 19th, when, beginning to abate, the tinct. cantharides was again resorted to, and in similar doses. No strangury was now produced, and the only effect of the medicine was to increase the excitement of the sanguiferous system. In a few days, her menses having entirely disappeared, her medicine was discontinued. It should have been previously observed, that the long continuance of her disease had rendered the patient idiotic. After this free menstrual evacuation, her mind was evidently much more correct in its operations, and her fits less numerous, and less severe, though while menstruating they had been very frequent and very violent,

rendering a confinement in the strait jacket necessary, from the complete derangement of the patient.

“ On the 3d of September, the tinct. cantharides was again resorted to, and used as before, until the 4th, when strangury came on, which was kept up until the 19th, by exhibiting a dose twice a day. From the 3d to the 17th, she had no fits at all, and her mind was much improved. On the 18th and 19th she had one fit each day, and on the 19th she began to menstruate. As her doses of the tinct. had been gradually increased from the 4th, when the strangury had come on, she was at this time taking forty-five drops twice a-day. The menses continued flowing from three to four days, and then ceased. As usual, during this time her fits were very severe. No farther attention was paid to the case, and all that remains to be observed is, that the patient yet remains in the house, with her disease as bad as ever.”

The history of the five next cases was handed me by John R. Peckworth, M. D. of this city, who, at my desire, has made several trials of the cantharides in amenorrhœa.

#### CASE XIII.

“ Saturday evening, July 19th, 1817, I visited Mrs. R. in Front street. She had been beaten by her husband several times on Friday and Saturday, could not learn particularly where she had been struck, but found her in a state of insensibility, her mouth spasmodically closed, with her limbs straight and stiff, and the muscles of the body generally affected with spasmodic contraction. She had a difficulty of breathing, and a rising in the throat. I bled her about  $\text{℥xvi}$ . when her muscles relaxed, and she spoke. She now complained of pain in the region of the throat. Conceiving her disease to be hysterical, I gave her a combination of ether, asafœtida and laudanum, in the quantity of a table spoonful every hour. Next morning she was again insensible, had several convulsions during the night and morning. On enquiry I was told she never before had convulsions of any kind. Consulted Dr.



Joseph Klapp, who concurred in opinion with me, that the symptoms indicated an hysterical affection. We examined her person, and could find no apparent injury, except a small bruise about a quarter of an inch in diameter, on the left side, over the *latisimus dorsi*; the touching of this spot occasioned very considerable starting. Sinapisms were directed to her wrists and ancles, also forty drops of tinct. *asafœtida*, every twenty minutes; and an injection of ℥ij. of tinct. *asafœtida* in ℥ii. of the mucilage of gum arabic, was advised. Next day found she would not submit to have the enema administered, nor would she permit the sinapisms to remain on a sufficient length of time to produce any effect. We insisted on her submission to the enema, and ordered a large mustard poultice to be applied over the stomach. Convulsions still continued. Tuesday, the bowels much constipated, I gave ten grains of calomel, which was repeated at noon; and in the evening, the bowels not having been moved, I gave her ten grains of aloes with six of gamboge, without any effect. The next morning she took ℥ij. of ol. ricini, and in the evening she had an injection of ℥ij. sal soda; this caused three evacuations. The *asafœtida* was continued. This plan of purging and antispasmodics was continued for about two weeks, without much advantage, when coma, dilated pupils, vertigo, &c. led to the shaving of the head and blistering it. Cups were also applied to the forehead and temples. These means afforded some relief. The convulsions still continued. The purges and antispasmodics were persisted in. August 3d, Dr. K. finding that the menses had been obstructed for some time, advised the use of the tinct. *cantharides*, with the view of bringing on the discharge. This was taken in the quantity of twenty-five drops, three times a-day, for the first three days, when it was increased to thirty drops, three times a-day. Five days after commencing with the tincture, she complained of considerable pain in the lumbar region, and in the direction of the uterus. In two days more the menstrual discharge came on, and continued four days. The bowels being much constipated, the *cantharides* was omitted, and aloetic purges resorted to. Cos.

tiveness being removed, and the menses having stopped, the tinct. cantharides was resumed. In a short time it produced severe pain in the lumbar region. About this time the patient became affected with a dropsical swelling of the abdomen. I should have mentioned before, that when the tinct. cantharides began to operate on the uterus, the pain in the head, vertigo, and coma, were very much relieved, but recurred again with as much violence as ever, when that remedy was discontinued. To relieve the swelling of the abdomen, a combination of cremor tartar and jalap was used; it did not purge, but caused a considerable diuresis, with some abatement of the swelling. She took nothing from this time but occasional laxatives, till about the 4th of September, when the cantharides was again resorted to, and the effect produced was a discharge of the menstrual fluid, and a complete relief from the affection of the head during the flow. She has had nothing since that time but powders of nitre to reduce the swelling. The next period of the discharge, in October, she had a slight headach; it came on about eight days later than usual. The swelling decreases gradually, and she informed me this morning, October 31st, that she feels better than she has done for a long time past.

## CASE XIV.

November 30th, 1818.

“ Mary Ann Johnson, a coloured woman, about 18 months ago became affected with amenorrhœa. No satisfactory account could be gained from her of the cause which produced it. Since that time she has been affected with head-ach, which was the principal complaint. When I saw her, about four weeks ago, she had an excruciating pain in the head, with vertigo. There was also very considerable pain in the lumbar region, which came on about two months before, and I conceive was occasioned by her marriage, producing a tendency to menstruation. Her pulse was full and tense, the bowels constipated. In the course of the eighteen months previous, she had used a great number of the domestic remedies, generally employed for the



purpose of overcoming this state of the uterus. She was now bled, and purges were administered until the constipation of the bowels was done away. This treatment reduced the excitement of the system, and partially relieved the pain in the head. Cups were then applied around the temples and forehead, and a blister to the back of the neck. By this means, the affection of the head was so far subdued, that I conceived it proper to begin the use of the tincture of cantharides, with the view of bringing on the menstrual discharge. Accordingly, on the 17th of November, she commenced with 10 drops three times a day; on the 19th, the dose was increased to 15 drops; on the 20th, to 20 drops; and on the 21st, to 30 drops. The effects were as follow: on the 17th and 18th, the pulse was slightly excited; on the 19th, in the morning, she complained that the pain in the back had considerably increased, and in the evening the menses appeared, but sparingly; on the 21st, the discharge was very copious, and the pain in the back was removed. It continued during the 22d and 23d, when it left her free from all pain. The medicine was discontinued on the 22d."

## CASE XV.

A. C. aged 23 years, in consequence of having her feet very frequently wet in cold weather, became affected with amenorrhœa, about the 1st of December, 1817. She did not perceive any particular inconvenience arising from the suppression until about one month before she came under my care; at which time she was much troubled with vertigo, nausea, constipation, fetid breath, and a very severe pain at the umbilicus; she was also much afflicted with severe pains in the limbs, more particularly the lower. On the 23d of April the menses came on, but disappeared the same day, leaving her so much worse, that she was not able to leave her bed. On the 25th I was consulted, when the symptoms were as described. The pulse, though not weak, was not sufficiently active to demand the use of the lancet. A dose of ipecacuanha and calomel was administered

with the view of cleansing the stomach, and at the same time to open the bowels; the pain at the umbilicus was somewhat relieved by this. On the 26th, I directed 12 drops of the tincture of cantharides, three times a day; on the 27th, the dose was increased to 15 drops. After the fifth dose, there came on very considerable pain in the lumbar region, but no strangury. When she had taken in all 114 drops, the menses appeared, and with them the health of the patient was restored."

The next case, furnished me by Dr. Peckworth, was treated, and communicated to him, by his correspondent, Dr. John Baxter. It is almost unnecessary to add, that in this gentleman I repose the fullest confidence, and shall, therefore, not hesitate to add his case to the number already detailed.

## CASE XVI.

April 27th, 1818.

"While in Boston, I tried with success the power of cantharides, as an emmenagogue, in a case of amenorrhœa of six months standing. It was not a case of entire suppression, there being a slight show of the menses. A severe headach was the only symptom I could ascertain; this the patient had been subject to from a child. She had never been right or regular in her courses since she had arrived at the proper period, so that the menses were always deficient. The only remedy which had been used was castor. The state of the system has always been plethoric. That it was so when I commenced with it, and the pulse full, you may judge from my bleeding her to the extent of  $\text{ʒxvi}$ . at once. This reduced the system, and relieved the head in some measure. There was no strangury produced in this instance, by the cantharides."

Extract of a letter from Dr. Baxter, dated July 16th, 1818.

"The patient I mentioned, to whom I gave the cantharides, has been regular in her menses ever since, though the headach has not entirely subsided, but is less than formerly, and will, I expect, entirely subside."



## CASE XVII.

December 17th, 1818.

"Mrs. B. aged 44 years, about three years ago became affected with dyspepsia, occasioned most probably by that change which occurs in the female economy at this period of life. The symptoms, indicative of a loss of tone in the digestive organs, are of the most distressing character ; violent pains, vomiting, purging, or obstinate constipation. The catamenial discharges are very irregular, sometimes occurring twice or three times in a month, and at other times but once in three or four months ; very frequently this secretion will stop suddenly on the first day of its appearance, and then the patient is affected more particularly with the pains in the abdomen, and also in the back, hips, and thighs. Having several times been witness to the very beneficial effects of the tincture of cantharides, in relieving the pains of a difficult menstruation, I directed fifteen drops to be taken in a little sweetened water. The effect of this single dose was so immediate, that in half an hour from the administration of the medicine, the discharge returned, and the pains were removed. The same dose has been repeated several times in the course of the last four months, attended always with the same happy effect."

The following communication was handed to me by my brother, Harvey Klapp, M. D.

Philadelphia, Nov. 1818.

Dear Sir,

In support of your practice in amenorrhœa, I take the liberty of furnishing you with an account of two cases which lately occurred to me.

Yours, respectfully,

HARVEY KLAPP.

*Dr. J. Klapp.*

## CASE XVIII.

"Mrs. N. aged 27 years, was exposed to wet weather while menstruating in September, 1817, in consequence of which her menses were suppressed. She had a severe cough, and expectorated a thin mucus. On the 17th December I visited her, and found her complaining of pain in the head and breast. She had chills and a fever mostly occurring in the afternoon. She was directed a cathartic and a blister on the breast. On the 18th, I prescribed a decoction of seneka root and flaxseed tea as a drink. Remedies to promote expectoration were continued about seven days, without the patient deriving much benefit. The pulse being in a favourable state for emmenagogues, I concluded that I would endeavour to carry off her breast complaints by exciting the menstrual discharge. She accordingly began with twenty drops of the tincture of cantharides three times a day. The dose was gradually increased until she took sixty drops three times a day. Strangury was produced, and on the following day the menses appeared. After this she regained her general health, and has continued to menstruate at the regular times."

## CASE XIX.

"Mrs. C. aged 30, became affected with amenorrhœa in consequence of a bilious remitting fever, with which she was affected in November, 1817. In January, 1818, she laboured under pain in the breast, a bad cough, oppressed breathing, and spitting of blood. The bowels being constipated, she took a purge, was bled and blistered. Expectorants were afterwards employed, but proving insufficient, she took mercury to the extent of a ptyalism. When the action of the mercury was over, the pain in the breast returned as bad as ever. The menses continuing obstructed, I gave her the tincture of cantharides in doses of 20 drops three times a day. The quantity was increased till she took 60 drops three times a day. Strangury was the first intimation of the operation of the medicine, and



shortly afterward the menstrual discharge ensued. The pain in the breast ceased, and she recovered her health without further aid from medicine."

If, after perusing what has been stated, it should be admitted, that cantharides do possess a property of overcoming uterine obstructions, its method of operation, in producing that effect, will probably become a subject of inquiry. It will form a question too of some practical importance, as its solution would lead to a more correct knowledge of the forms or states of the disease, to which the remedy is more particularly adapted. I have ever found it, in my practice, an evident stimulus, giving rise to an increase in the force as well as the frequency of the pulse. Hence it would be reasonable to suppose, its emmenagogue result is not so certain in those cases, which are already attended with preternatural or high excitement of the pulse. This inference has been found as correct in practice, as it is consonant with theory. The circulation, therefore, in such cases, should be duly regulated by the employment of the lancet, and other means, as a very needful preparation for the use of cantharides. Independent of the stimulant operation of this article on the system, it is well known to produce decided partial effects on several of the abdominal, more especially on the pelvic organs. When it occasions a strangury, its action does not appear to be confined merely to the bladder; it excites, to a greater or less extent, all the different viscera in its vicinity. Of these, its action on the uterus, in promoting the menstrual discharge, I think, from what has been said, is entitled to be mentioned; besides, a strangury is often accompanied with pain in the back and side; and more frequently the sick complain of pain in the bowels, which, in some instances, is so great, as to give an appearance of being the most considerable affection of the two. I have often known frequent stools to attend a strangury, and patients sometimes complain, that the passage of the fæces through the rectum excites a sense of heat or burning, similar to that which attends the voiding of the urine. From these facts, shewing that cantharides

is not confined in its partial operation solely to the bladder, but more or less acts on all the neighbouring organs, I have been inclined to conclude, that it is chiefly on these local effects that its emmenagogue power depends, and not so much on its operation as a stimulus to the whole system.

Whether or no, this be a correct explanation, further observation or more extensive knowledge must determine. At present, in embracing it, I can only say that I do not feel over confident of its correctness; and if, in venturing into the fairy field of theory, I have, like many others, been betrayed into error, I beg to be permitted to offer an apology derived from the father of physic.

“The mysteries of nature are so difficult to evolve; and upon the best philosophy, as we ascend high in the scale of causes, there rests such an obscurity, that all the knowledge and experiments of men are little better than conjectures; it is to be hoped that I shall be excused, if, in this subject of such infinite importance, I fall short of what I aim at. Indeed, I would only wish to venture upon a theory, which, if it be found fallacious, cannot injure mankind in the idea; and if it be not truth, it may be at least a well-advised caution.”

HIPPOCRATES.



*Observations on Temulent Diseases.* In a letter from Daniel Drake, M. D. of Cincinnati, Ohio, to Samuel Brown, M. D. of Philadelphia.

Dear Sir,

SOME recent publications by Dr. Klapp, and other respectable physicians, on the mental diseases produced by intoxication, have suggested to me the propriety of exhibiting to the profession, a short history of two or three cases somewhat analogous. I shall make these the subject of my letter, and if you deem them of sufficient importance to merit publication, I will thank you to hand them to the Editor of the Medical Recorder.

In the summer of 1807, I was requested to visit a cabinet maker, who laboured under convulsions from drunkenness. I bled him freely, and administered a large dose of tinctura opii, with the effect of moderating, but not of promptly removing his disease. A few weeks afterwards I was sent for again, and found my patient in the same situation as before. I bled him as in the first instance; and to increase the efficacy of the tincture of opium, which I still thought it necessary to administer, combined with a quantity of the rectified oil of amber; but this treatment produced no decided relief. The prescription, however, was continued, until more than a drachm of the former medicine was swallowed, when nausea and vomiting were produced, and immediate relaxation was the consequence.

It was so obvious, that the condition of the stomach just described, was the cause which removed the convulsions, that I determined, of course, to induce that state of the gastric organ, by a more direct method, in the first case that should occur. It was not long before an opportunity presented itself.

In the ensuing autumn, Mr. J. a gentleman from Baltimore, in consequence of a drunken frolic, sunk down in his chair insensible, and apparently apoplectic. In a few minutes violent

convulsions supervened, and were succeeded by reverie. Upon the occurrence of the latter symptom, I made an attempt to administer a solution of tartris antimonii et potassæ, but without success. The spasms returned, and it was not till the second paroxysm of reverie, that the patient could be induced to swallow the emetic draught. In a few minutes after its exhibition, nausea and vomiting came on, and all the symptoms immediately ceased. The patient, however, resumed his dissipation, and in two days after was attacked a second time. I did not see him for several hours, during which time he had many alternate fits of convulsions and reverie. Six grains of the antimoniated tartrite were immediately dissolved, and offered to him when in the latter state, but refused. In a few minutes a violent convulsion recurred, and was succeeded by a paroxysm of reverie, so interesting in its character, that although somewhat foreign to my present object, I flatter myself you will be amused with its history.

During the maritime war that existed between the United States and France, in the year 1798, Mr. J. was second in command on board an American vessel, which was captured by a French privateer in the West Indies. It was this occurrence (a correct account of which I afterwards received from a gentleman who knew the circumstances) that constituted the subject of his reverie. He imagined the transaction to be then passing before him, and that he was performing in it a very important part, as had actually been the case. While stretched on his back, he kept his arms, and the muscles of his face, in constant motion; and in this way, as well as by his words, expressed, in a very forcible manner, that he was under the influence of the various emotions and passions that attend such an engagement, as he was acting over before us. He received and gave orders, encouraged the men, and when he saw the captain fall, (an event that happened,) he actually shed tears, and uttered the most pathetic exclamations. This emotion, however, was temporary. Succeeding, as he supposed, and as had really been the case, to the chief command, he proceeded accordingly to conduct the fight and animate his men. But



this agreeable state was soon followed by another, in which despair and mortification were most feelingly expressed. He was compelled to strike his flag and go on board the enemy's vessel, when he went through the ceremony with one of the attendants, of delivering up his sword. He then complained of great fatigue, and asked permission to lie down on deck, and be covered with his own colours. This, as he supposed, being granted, he directed his servant to bring him a glass of water. The solution which had been repeatedly offered to him during the paroxysm, without attracting his attention in the slightest degree, was now accepted and drunk with avidity. In fifteen or twenty minutes the consciousness of his present existence was restored, with perfect sanity of mind—copious vomiting ensued, and the spasms were cured.

In the ensuing summer, I was requested to visit E. C. a man affected with convulsions; and occasionally attended him for several years. While employed in his ordinary business, that of a drayman, he was frequently compelled to make extraordinary exertions, and remain from home for the whole day, sometimes exposed to the heat of the sun, and at other times to inclement weather; during which time he would drink freely of ardent spirits, and take but little food. The effects of these irregularities, not uncommonly, were great distension and pain of the stomach, followed in a longer or shorter time by general convulsions. When first called to treat this disease, I employed blood-letting; but found it necessary afterwards to administer an emetico-cathartic, the operation of which gave complete relief. In my subsequent attendance on him, nearly the same course was pursued. In some of the attacks, very little blood was drawn, and in others none at all. In every case, the principal, if not an exclusive, reliance was placed on evacuations from the alimentary canal. For this purpose I generally employed the *tartris antimonii et potassæ* in solutions with *sulphas sodæ*, as being both speedy and active in its operation. It never failed to accomplish the object for which it was administered; but in some attacks I found it necessary to give an enormous quantity, before any effect could be pro-

duced. In one instance especially, the stomach was so insensible to the stimulus of this compound, that a drachm of the tartrate and three ounces of the sulphate were taken before evacuations were excited, and these in the aggregate were by no means excessive.

In the course of two or three years, this disease underwent a considerable change of character. From the beginning the convulsions had been succeeded by a slight degree of mania and reverie; but at length these symptoms became much more considerable in proportion to the spasms; and indeed occurred a few times without any preceding or subsequent convulsions. The character of this derangement was not the same with that of Mr. J. The patient generally supposed himself engaged in the scenes and business which had occupied him just before the attack; but was seldom entirely inattentive to what was said by those about him. He would sometimes recognise them in their proper persons, but would not be persuaded by them of his aberrations. At other times, however, he was completely abstracted from all external impressions, exhibiting reverie in its perfect form. I recollect once to have seen him labouring under a perversion of mind and senses that was truly remarkable. He had been seized with a convulsion that terminated before my arrival. Upon entering the room I found him sitting on the bed side, partially insane. I proposed to him to take the usual emetico-cathartic, but he obstinately refused, alleging that he was not sick. He consented, however, to take medicine, if it were directed by Dr. Drake. I assured him that I was the person, but this he denied, and pronounced me to be Dr. C. who occasionally had been called to attend the family. Finding my assertions unsuccessful in the correction of this error of vision, I resorted to a simple stratagem, which answered the purpose. Taking my hat, I left the room under his immediate inspection, and re-entering soon after with a loud knock, was saluted in an audible tone by the family as Dr. D. I advanced to the bed side, gave him my hand, and was instantly recognized. He narrated to me with some coherence, the imposition which had,



as he conceived, been practised on him ; expressed his gratification at seeing me, and swallowed, without hesitation, the draught which two minutes before had been resolutely refused. Emesis soon commenced, and his illusions vanished.

Not long after this, Mr. C. exchanged the life of a drayman for that of a shop-keeper, and has not, as he lately informed me, had an attack for four or five years.

The manifest gastric origin of these two cases of convulsions and reverie, the former arising exclusively from drunkenness, the latter from exposure and irregularities, induced me carefully to observe the state of the stomach in the cases of these diseases which have since occurred in my practice. These have amounted to a considerable number, and I am warranted in saying, that this combination of morbid actions in the organs of animal life, is almost uniformly attended by a disordered state of the stomach. My treatment of them has been adapted to this view of their pathology. When the pulse has been preternaturally active, I have prescribed venesection. With this prescription, or without it, when the state of the circulation would permit, the emetico-cathartic, mentioned above, or some other formula, has been administered, and its effects have generally been of the most decided and beneficial kind.

The fifth case, described in Dr. Klapp's interesting paper, seems to have been complicated with convulsions. The ingenious author informs us, that he could not determine from the description that was given him, whether they were epileptic or hysterical ; and apprehending bad effects from the operation of an emetic in the former disease, he hesitated in its administration. I have no doubt but they were the same kind of epileptic convulsions that attended the cases I have described. These convulsions, hysteria, reverie, and mania, have repeatedly presented themselves to me as the effects of intoxication, and other causes that disorder the stomach ; and it cannot be regarded as useless or uninteresting to know, that they are equally under the control of emetic and cathartic medicines.

In the autumn of 1816, I had a patient who exhibited near-

ly this combination, from other causes than drunkenness. A young lady, in whom the function of menstruation had not yet become perfectly established, and who had for some time laboured under intestinal constipation, with depressed spirits, and a tendency to religious melancholy, awoke her friends about midnight with loud screams of terror. Her expressions indicated, that she imagined the devil was in the room, and had come to bear her off. She was completely insensible to all external impressions. Her pulse being weak, I forced down her a large dose of laudanum, but it produced no effect. She was then compelled to swallow an emetico-cathartic, the operation of which afforded complete relief. The disease however returned; and under the different forms of violent hysteria, almost amounting to epilepsy, of chorea, insanity, and reverie, continued to afflict her occasionally for more than a year. I have seen it, in the course of twenty-four hours, assume the symptoms which characterise each of those diseases. These paroxysms were treated in various ways; but for the first six months, I never found any thing successful except emetic and cathartic medicines. In the latter stages of this complaint, the nutritive organs appeared to be less in fault; but the tumult of the animal organs, at first entirely sympathetic, continued occasionally to recur, and were then much more under the control of antispasmodics.

In the summer of 1817, a case of hysterical convulsions occurred to Dr. Rogers and myself, which had such a manifest gastric origin, that I am tempted to cite it on this occasion. The patient, a middle aged, labouring woman, was affected with spasms, that might almost have been mistaken for epilepsy. We commenced the treatment with medicines addressed specifically to the animal organs; in which the disease appeared to be exclusively located; but they failed entirely. An emetic was then given, which produced the ejection of a quantity of green matter from the stomach, and the spasms were instantly quieted.

I am sensible, my dear sir, that I have already trespassed on



your time ; but the subject is, to me at least, an interesting one, and I shall venture to dwell on it a little longer.

Our profession, it appears to me, are under an obligation to those writers who have latterly endeavoured to direct our attention to the stomach, as a *punctum saliens* of disease. Experience and observation have convinced me, that a great variety of complaints which have been considered as arising, in a manner spontaneously, in the sanguiferous, lymphatic, nervous, and muscular systems, depend on a morbid condition of the alimentary canal, and especially the gastric portion. I do not pretend to have made a discovery ; I am only echoing a humble testimony in support of a most important, but not generally acknowledged doctrine. No part of the animal body is so obnoxious to injury as the stomach. Imbued with an exquisite sensibility ; subjected to the first and coarsest impressions of our heterogeneous *ingesta* ; stretched occasionally to an enormous extent by the unrestricted indulgence of appetite ; exposed to the actions of poisons, solid, fluid, and gaseous ; disturbed by the passions ; debilitated by intense thinking, and exhausted by excessive volition ; assailed, in short, by numerous causes from without and from within, this viscus must be peculiarly liable to disease. No organ, at the same time, exercises over all the rest, both vital and animal, such a powerful sympathetic control. It should not surprise us then to discover, that a great variety of diseases in distant parts are produced by a disordered state of this viscus, and are cured by the administration of medicines which act especially upon it.

Since the foregoing pages were written, Dr. Klapp's valuable paper on temulent diseases has come to hand, and contains some things, of which a part of what I have said, will be almost a repetition. I have stated faithfully a few of the results of several years practice, and will leave it for you to decide, whether the publication of them, after the paper alluded to, will be a work of supererogation.

*On the Use of the Sulphuret of Iron in Dropsy.* Communicated by Dr. Robert Archer, of the United States' army.

Norfolk, Virginia, Dec. 10, 1818.

To the Editor.

By submitting to you the following case, it is not my intention to claim to myself any credit for introducing into practice a new remedy, but merely to recommend to the attention of physicians a popular one, which I am credibly informed has been generally attended with the happiest effects, and from authority which has induced me to make a trial of its efficacy.

The remedy in question is a sulphuret of iron, prepared by inflaming sulphur, or brimstone, on a quantity of rusty nails or pieces of iron heated red-hot, and placed over a bowl or vessel partly filled with water. The sulphur combines with the iron, and falls to the bottom of the vessel in the form of a black sulphuret: this is dried, and then powdered for use.

J. W. a soldier, about thirty years of age, of stout, robust stature, full habit, by profession a farmer, and much addicted to the abuse of ardent spirits, was admitted into the hospital at Fort Norfolk, labouring under ascites, combined with anasarca of the lower extremities, on the 1st September, 1818. This patient had been received in a similar situation about twelve months previous, and discharged cured, about two months afterwards; but in consequence of a recurrence to his former habits of intoxication, together with a close confinement in a small room (being a prisoner) where he could not enjoy his usual exercise, he was again subjected to disease.

Prescribed Pulv. jalap gr. xx.

Sup. tart. potas. ʒi.

M. et stat. sumend.

2d.—Medicine operated well, no better, little appetite, skin dry, urine in very small quantity and deep coloured, observed an induration in the region of the liver. Prescribed mercurial frictions to the abdomen, and alterative pills, composed of



G. ammoniac.	}	āā ʒiss.
G. aloes		
P. scillæ		ʒi.
Sub. mur. hyd.		gr. xx.
Sap. castil.		ʒij.
Ft. pill, No. 90. Capiat æger duas mane, ves-		
pereque.		

This course was persisted in, with no advantage, until about 12th.—Swelling of the scrotum attended with fever, pulse full and hard. Took from his arm about ʒxij. blood, exhibiting strong marks of inflammation, when cold. Prescribed, in addition to the pills,

Spt. æther. nitros. ʒi. ter. die.

15th.—Scrotum and penis exceedingly distended, measuring, upon an average, seven inches in diameter. Made several superficial punctures with the point of a lancet; discharges freely, and within one hour swelling reduced nearly one-half; continued the medicines.

18th.—Slight ptyalism to-day; swelling of the abdomen and extremities continue to increase; the scrotum has attained the same size as before puncturing; lips and eye-lids begin to swell. Repeated the puncturing.

20th.—Much cough and difficulty of breathing, unable to sleep in a horizontal position, pulse full, took ʒxij. blood, similar to the first; breathing a little relieved. Omitted the pills and frictions.

℞ Oxym. scillit.	}	āā ʒi. omne bihora.
Spt. æther nit..		

26th.—No better; face very much swollen, dyspnœa increases, scrotum larger than ever, although punctured almost every other day.

Such was the forlorn condition of my patient; daily growing worse, hydrocele increasing, strong symptoms of hydrothorax, voiding scarcely any urine, skin dry and communicating to the fingers the sensation of dough, no appetite, no strength, and

no hopes of ever being better ; when, yielding my judgment to popular experience, I determined to give a trial to the remedy, on which I firmly believe depended the man's salvation.

October 10th.—At eleven o'clock, A. M. I prescribed, agreeably to the ordinary practice, as much of the powdered preparation as could be taken on the point of a common pocket knife, say five or six grains, to be repeated three times a day ; omitting every other remedy, except a little syrup to allay the cough.

11th.—To my utter astonishment, my patient informed me that throughout the last night, he was covered with a profuse sweat, so excessive that he wished to change his shirt, but was prevented by the attendants, and had passed upwards of half a gallon of water.

From this moment he began to recover. The medicine continued its operation upon the urinary and cuticular organs. The swelling gradually subsided, first from the face ; secondly, from the scrotum, which, within the space of six or eight days, had acquired its natural size, after once puncturing ; the distressing difficulty of breathing was as soon removed ; and, thirdly, the swelling of the abdomen and extremities had almost entirely subsided fifteen days after the first administration of the medicine ; and, with the exception of a little occasional œdema of the ankles, he now enjoys as good health as he ever did.

I have thus, as concisely as I was able, endeavoured to detail the history of this truly interesting case. I cannot pretend to say, that it would not ultimately have terminated favourably, without the aid of the last remedy ; nor can I say what influence the other remedies had in the accomplishment of the cure ; that will rest for others to determine ; but this much is incontestible, that the disease was much abridged by the *sulphuret* ; and although it may not be a specific in hydropic affections, still the success attending its administration in this case, will entitle it to the consideration of physicians, whose opportunities for observation are greater than mine, as a medicine that may become valuable, by the powerful influence it exerts upon



the absorbent system. And as it is a subject deserving consideration, I earnestly solicit the attention of physicians to a repetition of the experiment, fully confident that it will not be found inefficacious.

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*A Case of Periostitis.* Communicated by W. Bradley Tyler,  
M. D. of Fredericktown, Maryland.

ON the 10th of June, 1818, I was requested to visit the son of captain H. Steiner, of this town, aged about three years. On seeing the case, I found my patient suffering under a constant and excruciating pain about the foot and ankle, and received from his parents the following account: that the child had left home some days before, in his usual health, on a visit to his friends in the country, where he remained free from disease until the 8th, when he began to complain whenever he exercised this foot. No alarm was felt; and he continued in the country, receiving assistance from such remedies as were within reach, until the 10th, when he was brought home, and, in the absence of the family physician, I was called on. No external injury, from puncture or contusion, could be perceived, nor any accident recollected, to which it could be referred, such as a sudden or violent extension of the parts, &c. The most careful examination of the foot was instituted; it was compared with the sound one. Nothing could be detected, (except a slight general discolouration,) that was not natural.

The tortures of my patient excited the warmest sympathy; and I did not hesitate, after the most deliberate reflection, to charge his sufferings to a deep-seated inflammation of the membranes, and tendinous expansions of the feet. Under this view of the case, the usual remedies were employed to reduce the temperature, and subdue the inflammatory tension, on which depended the pain. In addition to local applications, active

cathartics were administered to protect the system from the effects of irritation, so much to be dreaded. This plan was steadily pursued for thirty-six hours, with occasional flattering prospects of discussing the disease. I soon found my anticipations would be disappointed, and such an aggravation of the symptoms was threatened as to endanger the life of my patient. The swelling had not much increased, but the pain continued with the utmost severity. The constitution (hitherto not much concerned) began to sympathize, and symptoms peculiar to great nervous irritations discovered themselves. I renewed the examination most carefully, under the hope of finding some spot, at which an incision might be made down to the bones, and thus remove, by taking off the tension, a principal cause of irritation, or to furnish an exit for matter that might have formed under the tendinous expansions natural to the parts. I was again disappointed, and was unable to discover any indication which could direct where to make the incision. The only remedy left for the part, from which any benefit could be derived, was the application of a blister over the foot, and around the joint; this was done, and afforded some mitigation of the pain. In a few hours the case became as formidable as ever, and unless soon arrested, must terminate fatally.

Maturing poultices were now applied over the blistered part, and active evacuants freely employed. Inflammation began to spread itself over the leg, to which a strong solution of camphor was applied.

As soon as the return of the family physician was known, on the fourth day, he was sent for; to enable him to judge fully of the case, and then examination was made, the history of its treatment detailed, and those views of the case which I had entertained, fully expressed, a perfect agreement on every point essentially concerned, subsisted between us, and we were soon convinced that our case was lost. Nervous spasms, convulsive screams, and at length well-marked symptoms of tetanus supervened; to remove these, the nervous stimulants, such as camphor, &c. were freely employed, but without any alleviation. The cries and sufferings of the patient continued



until early on the morning of the 15th, when they abated, more from the exhaustion of the vital energy, than from any mitigation of the malignancy of the attack. I called early this morning, 15th, again in consultation with my friend, Dr. Baltzell, and after removing the dressings, we were able to feel a slight fluctuation about the joint. I introduced my lancet, which was followed by a tolerably free discharge of ill-conditioned pus. We were now made acquainted, not only with the nature, but the particular seat of the disease. Wine and a cordial diet were liberally administered, but the system was too much exhausted to be restored; he became easy after the operation, and died in five or six hours free from pain.

To satisfy ourselves of the extent of the ravages of this attack, permission was obtained to dissect the joint. We found the matter had made its way round the ankle, and had freely insinuated itself between the bones, entirely destroying the ligamentous attachments of some, and affecting, in a greater or less degree, that of the whole. Not being able to make its exit, it had, from the elevated position of the foot, found its way along the tendons to the middle of the extremity. The tendons in front of the foot, when divided, exhibited signs of high inflammation. The attachments between the bones of the joint were so completely dissolved, that, on turning the foot a little back, they were found loose in their sockets; the periosteum was thickened, and, in spots, corroded.

Towards the close of the case a singular appearance manifested itself, on the metacarpal joint of the fore-finger; a slight discoloration of the skin at this spot was at first perceived, which rapidly advanced, and in a few hours formed a considerable tumor, very dark-coloured, highly malignant, and tending to gangrene; whether painful or not, was not ascertained, for life was too much wasted to emit its proper sensations.

In reflecting on this case, I am persuaded that the use of the lancet, in addition to what was done, might have proved an important remedy in allaying, in the first stages, the general disturbance of the system; but nothing short of such a divi-

sion of the integuments, as would have exposed the seat of the disease, and this to be done as soon as its character is developed, could avail in preserving the life of my patient.

Instances of this tremendous disease are not uncommon ; but our ignorance of its peculiar character has arranged it with others essentially different.

Since the above case occurred, and the principal memoranda of this communication were made out, I have read with much satisfaction and instruction the remarks of Dr. Crampton, republished in vol. i. No. 3, of the Recorder, to which I now refer for every information necessary to a proper understanding of this subject, both as respects its character and proper treatment ; and where I am pleased to find my particular views so forcibly inculcated and explained.



*An Account of a Case of Uterine Disease, connected with singular Circumstances: In a letter from Dr. Atlee to the Editor.*

My esteemed friend,

IN looking over one of my day-books, I find the following notice of a case, which, if it do not serve to throw light on the hitherto inscrutable subject of conception, will at least add another fact in pathology. I give it in the words in which I recorded it.

" 26to. Die Mensis, 11mi. 1812.

" Res singularis mihi hodie occucurrit, cujus narratio forsitan non inutilis erit.

" Femina, secundum maritum habens, et circiter 50 annos ætatis, quæ, dum primo marito habitaverat, nonnullos liberos peperit, absque periculo vel difficultate; et, per annos decem viduitatis sequentis, bona salute fruebatur: Statim post concubitum primum, dolorem per totam vaginam sentiebat, et circa os tinçæ, persimilem acri, applicationem pungentem ad partem teneram sequenti; et diu languescebat.

" Sic res se habuit sine variatione, per annos duos, donec scirrhus uteri impetum fecit, qui adhuc duos annos alteros perseveravit. Dolores uteri, lumborum, femorum, crurum, pergraves, et causâ uteri morbidæ gravitatis et duritiæ, constipatione alvi et dysuria perpetua patitur; nec unquam solamen est, sine, manu sua, uteri repulso.

" Vir, quem nunc habet, etiam viduus fuerat, priusquam illa sibi nuptiis, junxit, et uxor ejus prima, per multos annos, morbum eundem tulerat, quo denique mortua est. Illa nunquam fœtum concepit.

" Egrota, cujus statum describo, quoque fatebatur, virum nunquam virilem fuisse, aliter, in suis verbis, nunquam mulieri potentem fuisse."

With sentiments of affection, I remain thy friend,

EDWIN A. ATLEE.

Phila. 11th mo. 5, 1818.

Dr. John Eberle.

*A Case of False Aneurism, caused by Blood-Letting, successfully operated on.* By Smucker.

[Translated from the German, by J. W. Gloninger, jun. student of medicine.]

A CERTAIN bagnio-keeper, in the year 1746, bled one of the king's tax-gatherers in the right arm, and carelessly punctured the brachial artery. The blood spouted out with such force, that, before the operator recovered from his embarrassment, the patient lost above a quart of blood. Finally, the hæmorrhage was stopped by compression, with a towel, above the puncture. A number of compresses were secured on the orifice, in the first of which was wrapped a piece of money by means of a roller.

The patient was fifty years of age, and of a robust constitution; nevertheless, the loss of so large a quantity of blood occasioned considerable debility. The puncture closed externally, but the whole arm and hand became much tumefied and very painful.

A French pensionary surgeon was now sent for, who called his superior in consultation. They attributed the whole of the symptoms to a puncture of the tendon of the biceps muscle, and subsequent extravasation under its aponeurosis, which they endeavoured to remove by inducing suppuration by means of warm cataplasms. These applications were continued two months, during which time the tumefaction and pain continued to increase, and became eventually so alarming to his friends, that they sent for me (Smucker) in consultation. I visited him immediately, with his surgeons, and found his hand and arm enormously swelled, and of a livid colour, from the extravasated blood, notwithstanding which the external orifice was completely closed.

I discovered immediately that it was a false aneurism, and informed the French surgeons of my opinion. I added, that in consequence of the unnatural distension of the integuments,



the patient's life was in danger from hæmorrhage, if a rupture of the integuments should take place during their absence; consequently, the only remedy was to perform the operation as early as possible. They, however, adhered to their first opinion of bringing on suppuration, and evacuating the pus by puncture, imagining all the symptoms would then subside. In consequence of this difference in opinion I left them. The patient, not satisfied with their project, relinquished them, sent for me a second time, and requested me to pursue whatever course I thought proper.

I called the learned Doctor Lüberkuhn, and two of my colleagues in consultation. The operation was determined on immediately, and was performed in the presence of these gentlemen and the two French surgeons before mentioned.

The patient was placed on a chair with his arm extended. A tourniquet was then applied above the elbow, and an incision made through the integuments obliquely across the elbow joint, through which a large quantity of coagulated blood was extracted; as there appeared to be yet a considerable quantity remaining in and under the cellular texture, the incision was enlarged, and above a pound extracted. The aponeurosis of the biceps being now brought into view, I introduced a hollow sound through the puncture made by the lancet in bleeding, and enlarged it above and below; a jet of arterial blood immediately ensued when the tourniquet was slackened. The punctured artery being perceptible, I tightened the tourniquet, separated the artery from the adjoining nerve, and passed ligatures, by means of a blunt-pointed curved needle, above and below the puncture, and then tied them. The tourniquet was slackened, and no hæmorrhage ensuing, the artery was divided between the ligatures, to admit retraction.

The fore arm, hand, and fingers became almost immediately cold, and assumed another colour, and no pulsation at the wrist was perceptible. I let the tourniquet remain until the bandages were applied, and the patient put to bed.

The wound was cleansed and dressed with pulv. colophon. (pulv. resin) to prevent sloughing, and then filled with lint,

over which compresses were placed. A roller was passed up from the hand, but the elbow was left uncovered, to prevent compression of the anastomosing arteries. The patient's position was such as enabled him to keep his arm inclined downwards; a decoction of white wine and discutient herbs was continually applied; the tourniquet was loosely applied, to be ready if hæmorrhage should accidentally take place.

After the operation nothing particular occurred; and, in consequence of the great loss of blood, no symptoms of fever were evident from the pulse. The fore arm and hand were kept continually warm with the decoction, and on the fourth day the first dressing was removed. A large quantity of coagulated blood, which had remained in the cellular membrane, presented itself. The pulv. colophon. was again applied, and the wound covered with the bals. arcæd. (bals. of gum elemo.) There was no pulsation at the wrist, and apparently little hopes of the collateral branches dilating sufficiently to nourish the arm; amputation could not be attempted with any prospect of success, on account of the great debility of the patient.

On the fourth day a gentle fever came on, which subsided on the seventh, and the wound began to suppurate.

On the tenth day I observed a slight pulsative motion at the wrist, and the arm felt warm, yet the fingers were cold and contracted.

The wound produced healthy pus. I ordered the application of a decoction of cinchona, to which was added tincture of myrrh. This application was continued till the thirteenth day, and while the temperature of the hand became daily more natural, and the fingers less corrugated, I ordered a glove of sheep-skin to be drawn over the hand and fore arm, which reached to the elbow, and only to the elbow; the application was continued in order to assist in the dilatation of the arteries.

On the fifteenth day the lower ligature came away, and on the following day, the upper. The wound now healed fast, and the patient was enabled to take more nourishment, with a glass of Rhenish wine.



I now enjoined gentle flexion and extension of the fore arm and fingers; in the commencement this was fatiguing; he could hold nothing with his fingers, and was obliged to use his left hand entirely; notwithstanding his exertions his hand remained weak, and its pulsations were much more feeble than in the sound one. In consequence of this debility I sent him, in the winter season, to the Frequenwalder spring, for the benefit of the bath; after the use of which, for four weeks, in the form of steam and percolation, he recovered the perfect use of his arm; but his system had received so great a shock, from the loss of blood, that all the roborant remedies resorted to could not restore its former vigour. He remained much debilitated, and, in the course of five years, was carried off by dropsy.

## REMARKS.

It is generally believed in England and in this country, that Abernethy was the first surgeon who divided the artery between the ligatures, in the operation of aneurism. It appears, however, from the above case, that the merit of introducing this improvement into surgery, belongs to Smucker. He was undoubtedly one of the most eminent surgeons of the last century; his writings are justly considered as amongst the most valuable in the German language. A case similar to the one related above, is reported by Dr. Physick in the first volume of Dr. Coxe's Medical Museum.

EDITOR.

## REVIEWS.

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*Remarks on a Pamphlet entitled "Reflections on Securing, in a Ligature, the Arteria Innominata, to which is added, a Case in which this Artery was tied by a Surgical Operation. By Valentine Mott, M. D. Professor of Surgery in the University of New-York, &c.*

THIS case is of so important a nature as very properly to excite much attention. Its circumstances are detailed by Dr. Mott so particularly as to leave no doubt that he tied the arteria innominata, and that the patient survived the operation twenty-six days. On attending carefully to its history, a question immediately arose on a subject which appears not to have been sufficiently attended to by the Doctor, either previous to, or after the operation; and that is, whether M. Bateman's tumor really was an aneurism, and of course whether the operation done was necessary and justifiable.

Dazzled by the brilliancy of such an operation, many practitioners, and particularly the younger part of the profession, would not, perhaps, think of investigating this subject. But we conceive it of great importance to do so, to show how careful every surgeon should be, not to perform painful and dangerous operations, except in cases where the necessity of them is clearly ascertained.

We observe, in the history of this case, that the first symptoms after the injury, were those of violent inflammation about the shoulder and arm. Now, as far as we have seen, aneurism has not usually commenced in that way; a pulsating swelling from a distended or ruptured artery is generally the first ap-



pearance of the disease. On the subsidence of this inflammation, a tumefaction, situated above, and posterior to the clavicle, began to show itself in the form of an irregular tumor, but no circumstance occurred which gave rise to a suspicion of its being aneurism.

The occurrence which appears to have decided the nature of this swelling in Dr. Mott's mind was, that on the 3d of May, about two months after the man's admittance into the hospital, the patient felt something give way in the tumor; his shoulder was painful; the tumor suddenly increased about one-third, and a pulsation was distinctly perceptible. Its most prominent part was below the clavicle, at which place the pulsation was most distinct. Next day the tumor was evidently increased, though it was not so firm and resisting as it had been, and the pulsation not so distinct.

Now all this appears to us contrary to what is commonly observed in aneurismal tumors, for in their early stages the pulsation is always most distinct, where they are so situated as to form an external swelling. It may here be remarked, that no appearance is noticed indicating the effusion of blood into the cellular membrane about the clavicle, which, had the sensation, mentioned by the man of something giving way, been owing to the rupture of an aneurismal sac, would, in all probability, have been observed. We think this symptom can be accounted for, by supposing that some deep seated scrofulous abscess suddenly burst and discharged its contents into the tela cellulosa, under the clavicle, forming the projecting tumor, which being now more in the vicinity of the subclavian artery, the influence of that artery was more distinctly felt, in causing the pulsation of the swelling.\*

Feeling these doubts on reading the history of the case, we fully expected to have had them cleared away by the dissection after death, but in this expectation we have been greatly disappointed. We expected an aneurismal sac, or cavity

\* That such a cavity existed, is rendered probable by the account given in the dissection of a number of enlarged and suppurated glands being found under the clavicles.

would have been opened, the artery entering it named, and the aneurismal orifices of it described; but instead of any satisfactory information on this highly important subject, a profound silence is observed. Instead of first demonstrating the existence of an aneurismal tumor, and then proceeding to investigate the effects of the operation performed for its cure, we find the latter has almost exclusively received attention, and the appearances of the tumor are related in a very cursory manner, in the last place. There is so much obscurity in the history given of the state of the innominata at the place of the operation, as to render it impossible to know what was its real condition. In describing its two extremities on each side of the place where the ligature had divided it, we are told in one paragraph. (page 41) that "the upper extremity of this vessel was considerably diminished in its diameter by the thickened state of its coats, occasioned by the surrounding inflammation;" and in the next paragraph it is stated, that the "tripod of great vessels, consisting of the innominata, subclavian, and carotid arteries, to the extent of nearly an inch, was dissolved and carried away by ulceration;" so that in the one we are told of the thickened state of a vessel, which, in the succeeding, is declared to have been carried away by the ulcerative process.

In describing the operation, a thickened and discoloured state of the coats of the subclavian artery was mentioned, which discouraged the Doctor from tying a ligature round it; but in the dissection, nothing more is related concerning the state of this vessel, than what is contained in the following unsatisfactory, and to us unintelligible, sentence. "The subclavian artery, internally and externally to the disease, was pervious," (page 42.) On opening the tumor, we are informed that it was much diminished, and that the clavicle was involved in it, found carious, and entirely disunited about the middle. A number of lymphatic glands under the clavicles, and particularly the left, were considerably enlarged, and when cut into, very soft, and evidently in a state of scrofulous sup-



puration; and then the following sentence concludes the account, "No other morbid appearance was observed."

This is truly an important disclosure, and to us quite satisfactory, that poor Bateman's disease was not understood, and that he was unnecessarily subjected to the operation which was performed.

Far from being of opinion that the "noblest efforts of scientific surgery" were made for the relief of this poor man; we believe that the mode of operation, and the after treatment, were highly objectionable; but want of time prevents us at present from entering fully on these subjects.

*Reflections on Fever, and particularly on the Inflammatory Character of Fever.* By Lyman Spalding, M. D. New-York, published by C. S. Van Winkle, 1817, pp. 43.

THIS pamphlet is an abridgment of one of the chapters of a manuscript work by this author, on the institutes and practice of medicine, announced in vol. iii. of the New-York Medical Repository, new series.

In the very commencement of this little tract, a glaring inconsistency stares us in the face. The author, adopting the doctrine of the unity of disease, says, "We believe with Dr. Rush, that there is but one fever; or, that fever is an unit; but then it consists of three grand, imperial, overruling characters, which almost amount to so many separate and distinct fevers: these are the inflammatory, the typhoid, and the miasmatic characters of fever, in each of which the seat, the cause, the symptoms, and the mode of cure, if not diametrically opposed, at least differ very essentially from each other." Now, it appears to us, that fevers "which differ essentially in their seats, causes, symptoms, and modes of cure," are really and essentially different, and fully entitled to be separated into distinct species. As the author has told us that an "essential difference in the symptoms, seats, causes, and modes of cure, almost constitutes distinct fevers," we wish he had also informed us what other circumstances are wanting to complete their radical distinction. We confess that we know of no other appearances by which a specific difference in diseases can possibly be indicated, than those he mentions, namely, "an essential difference in their symptoms, seats, causes, and modes of cure."

Dr. Spalding places the seat of the inflammatory character of fever in the muscular structure. Its proximate cause, he says, is "a very great diminution of the life of the muscular fibre."

That inflammatory fever is seated in the muscles, he infers from the following considerations:



" 1. The first symptom, lassitude, is seated in the muscular structure.

" 2. All the other symptoms are mere effects, produced by the functions, and morbid actions of the muscular structure.

" 3. The two overruling states of the system, the morbidly diminished, and morbidly increased action of the heart and arteries, which cause all the symptoms after the two first, (lassitude and rigors,) are referrible directly to the muscular structure.

" 4. The symptoms, from the first to the last, are one continued chain of cause and effect, and are capable of being produced by whatever causes the sense of lassitude.

" 5. In the examination of the symptoms, from effect to cause, it has been clearly proved that all the symptoms emanate from the derangement in the functions of the muscular fibre."

The sense of febrile lassitude, says the author, is seated in the muscular fibre, and is nothing more than muscular debility.

" The proximate cause of lassitude is a very great diminution of the life of the muscular fibres."

Inflammatory fever and lassitude have, therefore, according to Dr. Spalding, precisely the same proximate cause, namely, a " great diminution of the life of the muscular fibre." They must consequently be identical. But lassitude, we are told, is muscular debility ; inflammatory fever is, therefore, muscular debility !

We cannot, indeed, by any means, believe with the author, that muscular debility and febrile lassitude are identical. Lassitude is a sensation of a peculiar kind, and differs wholly from the feeling arising from mere muscular debility. In the low stage of typhus, or the early stage of convalescence, there exists great muscular debility, without, however, being attended by that peculiar sensation, which occurs in the commencement of fever, and which is called febrile lassitude.

The proximate cause of the feeling of lassitude, in the beginning of fever, arises probably from a diminished quantity of arterial blood in the muscles, and not, as the author alleges,

from a diminution of the life of the muscular fibre, induced by the febrile causes acting immediately on the muscular structure. The first obvious effect of the causes of fever, is to diminish the action of the arterial system. The blood deserts the surface of the body and the muscles, and retires into the larger interior vessels. By impeding the flow of arterial blood into one of the extremities, we produce a sensation in the parts, similar to that which is felt in the forming stage of fever. Dr. Spalding admits that such a diminished action of the heart and arteries does exist from the very commencement of fever; for, he says, "vertigo," which is a symptom concomitant with lassitude, "arises from a diminished circulation in the substance of the brain."

"It is evident," says Dr. S. "that the life of the muscular fibre, in the commencement of the inflammatory character of fever, is not diminished by the influence of the nervous system, nor by that of the sanguiferous system." The causes, therefore, which produce lassitude, act immediately on the muscular system. Let us see whether this opinion is founded on correct observation. Lassitude, upon which the author lays so much stress, is felt in the commencement of every species of fever, in the intermitting as well as in the inflammatory fever. But though we might admit, that cold, the most common cause of inflammatory fever, acts directly on the muscular system, and thus produces the sensation of lassitude, can we suppose that the causes of intermitting fever, marsh miasmata, &c. produce lassitude in the same way? that they act immediately on the muscular fibre, and diminish its vitality? Certainly such a supposition is perfectly absurd.

We cannot follow the author through his *ratio symptomatum*. All the symptoms of the first or cold stage of fever, with the exception of vertigo, he deduces from the great diminution of life of the muscular fibre. Those which appear in the second stage have a morbidly increased action of the circulatory system for their proximate cause. The proximate cause of fever is precisely the same as that of the first train of symptoms, viz. a diminished vitality of the muscular system. If this



opinion were correct, we should see the muscular system in an extremely debilitated state in the inflammatory fever; for if its proximate cause consists in a diminished state of the life of the muscular fibre, great muscular debility must necessarily be present. But this is not the case. Muscular strength is not remarkably diminished in inflammatory fever. Fever is not an insulated disease; it attacks every subordinate system of the animal body. To place it in a single organ or system, is taking a very limited view of the nature and phenomena of fever.

Dr. Spalding's opinions are certainly novel; but novelty is neither a test of truth, nor an evidence of sound argument. It is unnecessary to proceed *ex uno disce omnes*.

*Compendium Floræ Philadelphicæ. Containing a Description of the indigenous and naturalized Plants found within a Circuit of ten Miles around Philadelphia.* By William P. C. Barton, M. D. surgeon in the United States' navy, and of the Naval Hospital at Philadelphia. Two vols 12mo. published by M. Carey & Son.

A TASTE for botanical pursuits is manifestly diffusing itself more and more amongst us. Accessions are almost daily made to the stock of our knowledge of American botany ; our forests are traversed ; our mountains and vallies explored by the votaries of this alluring science, and the beautiful and interesting train of Flora introduced to our acquaintance.

Although the pursuit of botany unites the "pleasing with the useful," in an eminent degree, its elementary study is far from being captivating. Whatever, therefore, is calculated to smooth the difficulties of the initiatory steps of the botanical student, to strew flowers on the barren path which leads to the fair field of his science, merits our particular approbation.

Of all the means which are adapted thus to facilitate the studies of the tyro, local Floræ are undoubtedly the most useful. We therefore notice, with much satisfaction, the Flora Philadelphicæ of Dr. Barton. To those students of our university, who wish to acquire a knowledge of botany, this book must be extremely useful. Instead of being obliged to wade through a general Flora, the descriptions of which are always brief, and often indistinct, and which do not indicate either the locality or the time of flowering of plants ; they have, in this work, a manual, unincumbered by a multiplicity of plants they can never meet with in their excursions, and which, pointing out the precise place of growth, time of flowering, and other prominent circumstances, is calculated, in an eminent degree, to facilitate their studies.

The plants enumerated in this work are classed according to the sexual system of Linnæus. Notwithstanding the diffi-



culties which belong to this system, and which have been, of late, rather vehemently urged against its adoption, it appears to us still to possess advantages over every other mode of classification that has hitherto been proposed.

This Flora being written in English, is a circumstance well calculated to enhance its general usefulness. "The present work," says the author, "has been written entirely in English, the more easily to assist the tyro, and with a hope too, that it would be more likely to invite the attention of those to the study of botany, who might not be willing to encounter the laborious task of reading descriptions of plants in the Latin technical phraseology, always constrained and never alluring, either from its elegance or purity. In all cases of doubt or difficulty, recourse has been had to the *Herbarium* of the late Dr. Muhlenberg, in the American Philosophical Society, whereby all that certainty has been attained, which a source so authentic could produce."

The author has drawn his generic descriptions almost without an exception from Nuttall's work on the "North American Genera of Plants." We doubt very much, whether this indiscriminate adoption of Nuttall's generic definitions, contributes in any degree, to the value of this work. Nuttall, we think, has shown too great a zeal for the creation of new genera. He has, in some instances, divided the genera of preceding authors, with an unnatural violence, and which, instead of facilitating the progress of the student, has a tendency to render it the more irksome and slow.

Thus, he divides the genus *Smyrnum* into the genera *Smyrnum* and *Thaspium*, founded upon a slight variation in the shape of the seeds of its species. By this division, two plants, which have always been considered as mere varieties of the same species, are placed under separate genera! We allude to the *Smyrnum trifoliatum*, and *S. atropurpureum*, which so perfectly resemble each other, that, excepting the purple flowers of the latter, they might easily be taken for the same plant, and have always, as we have said before, been considered as mere varieties of each other. Nuttall, however, places them

under the separate genera, *Smyrnum* and *Thaspium*. This may be refinement in classification, but it unquestionably defeats the purpose for which classification is at all adopted; namely, to facilitate the acquisition of a knowledge of natural objects.

Neither do we admire the names which Nuttall has given to most of his new genera, or which he has adopted for old ones. The *Orobanche virgenea*, he calls *Epifagus virginianus*. *Epifagus* signifies *upon* the beech; it would have been much better to have called it *Hypofagus*, *under* the beech; as the plant is remarkable for growing exclusively under beech-trees. Dr. Barton has adopted the name *Epifagus*, in the *Compendium Floræ Philadelphicæ*; but we find, that in the third volume of his "*Vegetable Materia Medica*," which has just been published, he has relinquished this name, and adopted the old one, *Orobanche*.

The specific descriptions of the plants mentioned in the Flora, are brief, but sufficiently definite. To these are added the synonyma. After the systematic description, a familiar account of each plant is given, stating its height, its general appearance, its habits, its peculiar soil, the time of flowering, and the place where it may be found. These familiar descriptions are exceedingly useful; they assist, in a very great degree, the progress of the student, nor are they superfluous to the experienced botanist.

There are upwards of four hundred genera described in this work; the species are very numerous; and we are persuaded, from our own observation, that very few, growing within the circle to which the author confines himself, have escaped his attention.

The new species discovered and described by the author are, *Plantago hybrida*, *Hypericum adpresum*, *Pyrola clorantha*; the *Crypsis virginica* and *Poa Philadelphica*, were first detected by the author, and afterwards described by Nuttall.

There are many very interesting observations dispersed throughout this work. The *Heteranthera reniformis*, is gene-



rally supposed to flower very rarely. "This is not the case," says the author. "I was of that opinion myself, till I watched by the side of a muddy stream, containing an abundance of the plant, from sun-rise till one o'clock ; during this period, hundreds of specimens opened their flowers, which continued expanded during the noon-day heat, and then quickly closed."

In short, we are entirely satisfied with this work ; it will be found extremely useful to those, in this city, who cultivate botany ; and we cannot but applaud the zeal and industry, which the author evinces in the cultivation and diffusion of botanical science.

*Discourses on the Elements of Therapeutics and Materia Medica.* By N. Chapman, M. D. Professor of the Institutes and Practice of Physic and Clinical Practice in the University of Pennsylvania, President of the Philadelphia Medical Society, &c. &c. Vol. II. 8vo. pp. 487. Philadelphia, published by James Webster, 1819.

THE second volume of this work is at length published; and though we feel disposed to censure its tardy progress in coming before the public, we are glad to see it at last, and welcome it as the completion of a work, of which we have already, in a former number, expressed our good opinion, an opinion which the present volume is, in many respects, well calculated to confirm.

This volume commences with expectorants. Under this head are mentioned lichen islandicus, glycyrrhiza glabra, arabicum gummi, ulmus rubra, ammoniacum, scilla maritima, allium sativum, ferula, asafœtida, arum triphillum, polygala senega, carbonas ammoniæ, sodæ et potassæ carbonas, colchicum autumnale, balsamica, and vaporous inhalations.

Under the head "inhalations," the author states that "Linnæus prescribed inhaling the vapour of *hypericum*, a resinous substance." It would appear from this expression, as if *hypericum* were some resinous matter, or substance, and not a vegetable. The *hypericum* alluded to by Linnæus is a vegetable every where abundant in this country; it is the *hypericum perforatum*.

Emmenagogues come next. Preliminary to offering his opinion relative to the modus operandi of this class of remedies, the author enters into rather a lengthy consideration of the nature of the menstrual discharge. He considers it, very justly, a secreted fluid, and advocates this opinion in a way that puts its correctness, we think, beyond a doubt. At the head of this class of remedies, is placed *polygala seneca*. Of this article,



the author says, "of all the emmenagogues which I have tried, this is the most useful in all the forms of amenorrhœa, if administered with a due regard to the state of the system, and in other respects with correct discrimination. But I think it to be more particularly so in those cases where the decidua exists. My rule in the administration of the medicine in these cases is, to give about four ounces of the decoction, more or less, during the day, according to the circumstances of the case. But at the time when the menstrual effort is expected to be made, and till the discharge is actually induced, I push the dose as far as the stomach will allow, having given as much as two ounces every hour."

Before concluding this article, the author introduces some interesting observations relative to dysmenorrhœa. The remedy which he has found most serviceable in painful menstruation, is a combination of opium and camphor. "I resort to it," says he, "habitually, and scarcely ever without success." He continues: "to do away that state of the uterus, on which this particular form of amenorrhœa (dysmenorrhœa) depends, the volatile tincture of guaiacum is one of the best means. My knowledge of it is not great, having only used it in some few cases. But it is spoken of in very high terms by Dr. Dewees of this city, who has had much better opportunities of determining its effects. He entirely concurs in the opinion which I have delivered, that difficult and painful menstruation is most commonly owing to the existence of the deciduous membrane, and that the healthy functions of the uterus can only be restored by its expulsion." The chapter on emmenagogues is, indeed, in every respect, treated in an interesting manner. It is interspersed with many very useful and ingenious observations; and few, we think, can read it without deriving instruction from it.

The class anthelmintics follows next. As peculiarly suited for the expulsion of *lumbrici*, are mentioned calomel, spigelia, marilandica, helleborus fœtidus, melia azedarach, chenopodium anthelminticum, geoffrea inermis. For the removal of *ascarides*, aloetic preparations, and various injections; and for

*tania*, the mercurial preparations, drastic purges, polypodium filix masc. dolichos pruriens, stanum, and turpentine.

Upon the subject of epispastics, the author has thrown out a variety of very useful observations. Their practical application is dwelled upon at considerable length; and the rules laid down for their employment are, we think, judicious. In speaking of the use of blisters in the treatment of yellow fever, Dr. C. makes the following observation. "Taught by dissection, that the stomach is the seat of this pestilence, inducing a *malignant gastritis*, a prompt application of a large blister over the region of this viscus, is obviously indicated, and *all experience* confirms their utility." We readily admit that blisters, applied to the region of the stomach in this disease, may *sometimes* prove serviceable; but *all* experience does *not* confirm their utility. We find, in a late interesting publication on the yellow fever of New Orleans, the following remark relative to this point: "l'application d'un vésicatoire sur la région de l'estomac n'a pas eu d'efficacité."\* We do not think with the author, that yellow fever is a disease "*essentially* distinct from the bilious remitting fever," nor do we hold it as well established, that the stomach is the seat of this pestilence, or that it consists in a "*malignant gastritis*." Although dissection does demonstrate the existence of inflammation and spots of gangrene in the mucous membrane of the stomach, this does not, in our opinion, prove that yellow fever is a *malignant gastritis*, and primarily seated in the stomach. When we consider how acrid the contents of the stomach often are in this disease, we cannot be surprised that the mucous membrane of this viscus should, *after* death, exhibit the marks of inflammation and gangrene. In the same account of yellow fever, alluded to above, it is stated that the fluid ejected from the stomach, was frequently so acrid, or acid, as to excoriate the mouth, lips, and throat. "Vomissement d'une matière muqueuse, ou d'une couleur grisâtre, rouillée, acide, *agaçant les*

\* Rapport fait à la Société Médicale sur la fièvre jaune qui a régné pendant l'été de 1817. Par MM. Gross et Geradin.



dents, *excoriant la bouche et les lèvres.*" This is stated as occurring in the first stage; in the second stage, "*les matières rejetées sont d'une couleur grisâtre, laquelle vient insensiblement noirâtre, et finit par ressembler à du marc de café; ces matières sont presque toujours d'une nature corrosive, qui brule la gorge.*" Now, it appears to us, that a liquor which is so acid as to excoriate the lips and mouth, merely by passing quickly over them, is fully adequate to produce the gastric symptoms alluded to, when lying several days in immediate contact with the mucous membrane of the stomach.

That yellow fever is produced by the same causes, (the product of animal and vegetable putrefaction,) which, acting in a less concentrated state, produce bilious remitting fevers, the history of these diseases, as they have appeared in this country especially, furnishes, we conceive, ample testimony. We cannot, however, at present enter upon the discussion of this subject.

Diffusible stimulants come next in order. Upon this important class of remedies, the author has bestowed a good share of attention. He does not accord with those, "who, in the ardour of generalization, have insisted that stimulants are endowed with the same properties, differing only in degree of force, permanency, and diffusibility." "My view of the subject," he continues, "is, indeed, entirely opposite. Consistently with my own conviction, there are no two articles which produce precisely the same effects. The impression created, varies both as regards the force and nature of it, and cannot by any manner of administration be assimilated." The truth of this opinion is manifested by the fact, that, when the excitability is worn out by the constant action of one kind of stimulus, a different stimulating article will find excitability, and draw it forth. Diffusible stimulants are arranged under the three distinct heads, *incitants, narcotics, and antispasmodics*. Under the first head are mentioned carbonas ammoniæ, camphora, ol. terebinthinæ, phosphorus, capsicum annuum, caryophili aromatici, zingiber, and alcohol. Among these, the carbonate of ammonia, as it is, perhaps, the most important

article in this class of remedies, receives a very particular consideration. The virtues of this remedy are fully set forth by the author, and we do not think that he has bestowed upon it unmerited commendation. Respecting its use in typhus, he says, "In the more advanced stages of typhus, when the indications of increasing debility come on, the volatile alkali, either alone, or in combination with opium and wine, is, of all the remedies which I have ever tried, one of the most decidedly useful." The *narcotics* treated of are, opium, lactucarium, tela araneii, hyoscyamus niger, conium maculatum, solanum dulcamara, solanum nigrum, datura stramonium, digitalis purpurea, and prunus lauro-cerasus.

Speaking of opium, it is stated, that catarrh is more effectually arrested by this medicine than by any other article, when exhibited in the forming stage. "Novel," says the author, "as the remedy I have suggested in catarrh (opium) may seem, it is not without the support of experience. I have tried it an hundred times on myself, and still oftener with my patients, so that I can hardly be deceived. Taken on going to bed, which it should be, it soon excites an universal and equable glow over the system, attended with little or no perspiration, and I am not aware that any advantage is gained by uniting with it a diaphoretic. Delayed till the attack is confirmed, opium becomes mischievous."

Of the use of opium in pulmonary hæmorrhages, the author observes, "I am not quite sure, that, in pulmonary hæmorrhages at least, we have not been too much restrained by our speculative notions, in the use of mercury. What would be the effects of a large dose in the beginning of active hæmoptysis, I cannot determine positively from my own experience. That, however, it has done good, when thus prescribed, we are not without some direct proof." Richter\* divides hæmoptysis into three species, *inflammatory*, *spasmodic*, and *passive*; and lays down their diagnostic symptoms. His inflammatory and spasmodic hæmoptyses answer to Cullen's active hæmorrhage.

\* Specielle Therapie, 3d Band. p. 268.



In the spasmodic kind, which, he says, is by far the most frequent species of pulmonary hæmorrhage, and which is connected with great irritability either of the system generally, or only of the respiratory organs, he advises opium, and says it is often indispensable. He gave the opium in *large* doses.

*Tela araneii*. This substance, though a very old remedy among the vulgar, has but recently attracted the attention of regular practitioners. Its virtues are highly extolled by Dr. Jackson. Dr. Chapman says, "In doses of five grains, repeated every fourth or fifth hour, I have cured some very obstinate intermittents, suspended the paroxysms of hectic, overcome morbid vigilance from excessive nervous mobility, and quieted irritation of the system from various causes."

The following articles are noticed as antispasmodic stimulants: *moschus*, *castor*, *ferula asafœtida*, *allium sativum*, *oleum succini*, *ol. cajeputi*, *æther sulphuricus*. Of *garlic*, which is an article of considerable medicinal power, Dr. C. says, "Vertigo is a common and troublesome complaint, occurring in gouty and intemperate persons, and is often a source of great anxiety and alarm. It is not at all dependent on fullness of the vessels, and, I believe, nearly always is purely of gastric origin. Be this as it may, I have found it more readily to yield to *garlic* than any other remedy."

The author has rescinded the class of dialagogues, and places *mercury*, "the only real salivant medicine," between the stimulants and tonics, as partaking, in a considerable degree, of the powers of each of these classes.

The powers of this important article are very comprehensively stated by the author, more than sixty pages being devoted to it alone. In speaking of the use of mercury in the treatment of mania, he introduces the following observations, relative to the pathology of this disease, and the *modus operandi* of mercury in its cure is, "That the utility of mercury, in the mental affections, may in part be ascribed to its general powers over disease, seems highly probable. But I cannot help entertaining the conviction, that it does infinitely more good by specifically acting on the chylopoietic viscera, correct-

ing the derangement in this system of parts, which would seem to be the cause, in very many instances, of the morbid states of the mind. Extraordinary as this *location* of insanity may appear to such as have not contemplated the subject, it neither wants the support of authority nor the evidence of analogy, or of positive facts." After making some pertinent observations in confirmation of this opinion, he concludes: "But, while I maintain generally the connection of these cases with certain disordered states of the abdominal viscera, I myself am not at all disposed to deny, that they may take place as idiopathic affections of the cerebral and nervous systems."

We are entirely satisfied of the correctness of these observations. The close sympathy which subsists between the head and the abdominal viscera, is manifested in innumerable instances; and that mental diseases do actually arise from primary morbid irritations of the abdominal viscera, there can be no doubt. The prevailing opinion that mania is generally, if not always, a disease idiopathic to the brain, is, we are persuaded, fallacious, and derived from a very limited scope of observation. The author speaks in high terms of the use of mercury in hydrocephalus. "To be effectual, the mercury must be applied in a very bold and decisive manner. It should be exhibited in as large a quantity as the stomach and bowels will bear, and externally applied in the shape of frictions with the strongest ointment, most diligently and capaciously. To do less than this, in these desperate cases, is to trifle with the remedy, to practise injustice to ourselves, and to cut off the only chance which the patient has of salvation." The author's sentiments, relative to the pathology of this formidable disease, are, we think, founded upon correct observation. Like mania, and the neurosis in general, it is, without doubt, often, if not mostly, the consequence of primary disorder in the chylopoietic viscera. "But," he observes, "though I place the proximate cause of hydrocephalus in a morbid action of the brain, I am not the less persuaded, that, in a large majority of cases, it commences in a disordered state of the stomach, or some of the chylopoietic viscera. To this conclusion I am conducted by



the well-known association which exists between all these parts, and by various considerations, which may be deduced from the history of the disease, such as the great disorder observed in the chylopoietic viscera, sometimes for weeks before the appearance of hydrocephalic symptoms, the removal of these symptoms by purgatives, and other remedies directed to the alimentary canal, the extreme tenderness felt in the regions of the stomach and liver, the obstinate constipation attending at this period, in the peculiarity of the stools, indicating extreme irritation of the biliary secretion, and the phenomena exhibited on dissection, proving the previous existence of no slight disease in most of the abdominal contents, and especially in the stomach and liver, and sometimes none at all in the brain."

Dr. Chapman is among those who deny the necessity, or even propriety of using mercury in the treatment of the majority of venereal cases. He is of opinion that the prompt extirpation, by means of caustic, of the local affection, "affords a *perfect* security against any constitutional attack." He observes, further, that "all diseases propagated by inoculation, or in other words by the introduction of a virus under the skin, are so entirely sympathetic, that if the primary irritation be arrested or changed, we also arrest, modify, or completely change the character of the constitutional affection." He avows "his total want of confidence in the powers of mercury to cure chancre, or hinder the contamination of the system."

Upon neither of these points can we at all agree with the author. That the constitutional symptoms of such diseases as are propagated by inoculation, "are entirely sympathetic," arising simply from the irritation of a primary local affection produced by the insertion of the virus, is, we conceive, a position that cannot be well defended.

Were this the case, the extirpation of a chancre at any time previous to the actual occurrence of the constitutional symptoms, would infallibly act as a preventative of such symptoms. Experience, however, informs us that constitutional symptoms do often occur, many weeks and even months after the

entire disappearance of every primary local affection. Can the disease, in such instances, be purely sympathetic? Where, in such cases, is the point of irritation, with which the skin, periosteum, bones, &c. sympathize?

The destruction of a chancre, when effected immediately after its appearance, or before the virus has had time to contaminate the system, will, no doubt, prove an effectual preventative. This, however, does not prove the sympathetic origin of the constitutional symptoms of venereal chancre. But that the extirpation of chancre by caustic, or by any other means, when effected a *considerable time* after its appearance, will always, or even generally, prevent the occurrence of constitutional symptoms, is, we conceive, contradicted by general, if not universal experience.

Predicated upon the same principle, Dr. C. observes, when speaking of the use of mercury in hydrophobia, "I am thoroughly persuaded that the extirpation of the part, at any period prior to the accession of the attack, would prove as effectual as if it had been done when the bite was originally inflicted." In opposition to this, we could state not a few cases, where excision of the part bitten proved ineffectual in preventing this frightful malady. Dr. Hosack, in a private letter to Dr. Thatcher, says, "a little girl, about five years of age, was bitten some years ago on the arm; in less than *fifteen* minutes after the accident, I removed not only all the parts bitten, but beyond them, so far as to embrace every possible point to which the teeth of the animal could reach. *In a few days, however, the disease appeared.*"

We may here remark, in a general way, that we do by no means concur in opinion with the author, in ascribing such an unlimited agency, as he does, to *sympathy*, in the production and cure of diseases, as well as in the performance of some of the healthy functions of the animal system. And although he seems to consider, as "ridiculous and absurd," the opinion which alleges, that diseases may originate in the fluids, or that remediate articles do sometimes, in a direct manner, alter the state of the blood; or that morbid poisons produce their effects



on the constitution, by being absorbed into the circulation ; we notwithstanding own ourself still inclined to put some faith in these opinions.

Touching the use of mercury, in the treatment of venereal cases, we confess, that all we have yet read or seen on this subject, has not lessened, in any material degree, our willingness, in the generality of such cases, to resort to this remedy. That mercury has been too indiscriminately used in the treatment of venereal diseases, and that consequences of a very serious nature have frequently flown from such an unguarded use of this article, there cannot exist a doubt. But, in our ardor for reformation on this point, let us not go to the other extreme, and repudiate an article, which more than a century of universal experience proclaims, as the most effectual and certain remedy in the cure of the malady in question.

Of tonics. Under this head, the author introduces the following articles : cinchona officinalis, serpentaria virginiana, eupatorium perfoliatum, eupatorium pilosum, chironea angularis, cornus florida, prunus virginiana, cusparia febrifuga, colombo, gentiana lutea, quassia simarouba, quassia excelsa, swietenia febrifuga, croton eleutheria, humulus lupulus, ferrum, cuprum, bismuthum, argentum, aurum, and arsenicum.

In a foot note to page 425, we have the following observation : “ Not long since, a plant, which is commonly considered as a species of colombo, but *which is more probably a gentian*, was discovered in the vicinity of Marietta, in the state of Ohio. Experiments prove it to be equal, if not superior to imported colombo.”

Upon what grounds the author supposes this plant to be “ most probably a gentian,” we are at a loss to know. Certainly there was no necessity for speaking thus ambiguously of this vegetable. If he had consulted the works of Pursh, Michaux, Nuttal, Drake, Barton, &c. his doubts upon this subject might have been removed. It is the *Frasera Walteri*. We consider it wrong, that this plant has been noticed thus slightly by the author ; it is unquestionably an important article, and much more deserving of notice, than the “ eupa-

torum pilosum," rather needlessly introduced into this work. Dr. W. P. C. Barton has given a very good plate of this plant, with an interesting account of its botanical and medical character, in the sixth number of his valuable work on the "Medical Botany of the United States."

The author states that the hop is a native of England, he might also have said of the United States.

The next and last class is that of astringents. The following articles are introduced under this head: cortex querci, quercus cerris, kino, mimosa catechu, hæmatoxylum campechin, viscum, geranium, maculatum, prinos verticillatus, rubus procumbens, plumbum, argella, barytes, calx, acidum, nitricum, acidum muriaticum, acidum sulphuricum.

This work is, upon the whole, written in a perspicuous and polished style. We find, however, some inaccuracies, which, though they cannot lessen the general merits of the work, do, nevertheless, constitute blemishes, that cannot, with propriety, be passed over silently in reviewing the writings of an author so conspicuous for literary attainments as Dr. C.

In page 76, we have this sentence, "these (ascarides) are a small worm which occupy the rectum." Here the *singular* substantive "worm," is connected with the plural pronoun and verb, "these are," and is placed nominatively to the *plural* verb "occupy."

In page 113, he says, "cantharides are an insect of the beetle kind." This also is ungrammatical; "cantharides are," being in the plural, cannot agree with the singular substantive "an insect." In page 114, "Lyttæ vittata,—these are an American insect." This sentence is, indeed, extremely faulty. "Lyttæ vittata," is in the singular number, and yet he gives it the plural pronoun and verb, "these are." Besides, the expression "these are an American insect," is equally ungrammatical.

The author indulges also too much, we think, in a very great and sometimes awkward inversion of the members of his sentences. Thus, he says, "galls, and the whole metallic tonics, *which are bitter, not in the slightest degree.*" This sentence,



by which something is first affirmed and then denied, does not appear to us a very elegant way of telling us, that galls and the whole metallic tonics are not in the slightest degree bitter. We do not admire the so frequent occurrence of the phrase "not a little," for much, or, a great deal; such expressions, when only occasionally introduced, are, perhaps, rather ornamental than otherwise; but, when we meet them on every occasion, they impart an air of laboured affectation to style.

We have thus expressed our sentiments, in regard to this volume, freely and candidly; and though we do not agree with the author on all points, we give it as our decided opinion, that it is a work of much merit, and calculated to do a great deal of good.

*A System of Practical Nosology, &c. &c.* By David Hosack, M. D. Professor of the Theory and Practice of Physic, and of Obstetrics in the University of New-York. New-York, 1818, in 8vo. pp. 306.

THE importance of nosology, although questioned of late by some, is almost universally acknowledged. It would therefore be unnecessary to premise the following review with any remarks in its defence, or with any refutation of the cavils which have been raised against it. That precisely to mark the character of diseases, and to establish infallible diagnostics between them, would be highly useful and important, is granted on all sides; and, indeed, it will be found that all the arguments advanced against nosology may be resolved into mere complaints against the errors and imperfections of the systems that have appeared.

But when we consider the object of nosology; that it is not intended to arrange diseases with that rigid accuracy which is observed in the classifications of objects that are strongly and immutably characterised by nature; but rather established for practical convenience, and for the purpose of associating diseases, which, bearing an analogy in character, require similarity of treatment; and also to enable us to distinguish these from each other, that our treatment may be adapted to the modifications they receive from locality. When we consider such to be the object of nosology, of what significance are objections against its defects? If the object is attained, it is sufficient; we do not require the accuracy and precision necessary in a chemical nomenclature, or in a system of botany or zoology.

Estimating the value of nosology, and believing, as we do, that classification is indispensable to any well regulated system of science, and particularly important in medicine, we were in hopes that this work would, in a great measure, have furnished that great desideratum, a complete and well-digested



nosology. The distinguished character of the author, and the important improvements which he had made upon the system of Dr. Cullen, led us to expect that it would, at least, have excelled the system it was intended to supplant; and the great attention which he has constantly devoted to this subject, the indefatigable labour directed to the preparation of the book, and the long delay of its publication, induced us to suppose that it would appear with few deficiencies, and no errors. But we have attentively and carefully examined this work, and in many respects are greatly disappointed. Originality could not have been expected in such a work: the systems that have been published are so numerous, and many of them so ingenious, that really no room is left for a system totally new. The great error of nosologists has been to attempt to classify all diseases upon the same principles of arrangement; the consequence has necessarily been, that, although one or two classes have been unexceptionable, the system, as a whole, has been deficient, and even incorrect, in many points. The most, then, that can be desired, is a synopsis which will combine the excellencies of preceding arrangements. This we might have required in this work, and the more especially as the author has thought it of sufficient importance to subjoin a view of all the classifications of preceding authors; but as it is, we can see no purpose this addition can serve, unless to increase the bulk of the volume, to double its becoming size, and to enhance its price to that of other books, which, although of the same dimensions, contain more print in the same space. The professor seems to have confined himself altogether to the system of Dr. Cullen; and hence, instead of producing a book which should preserve the excellencies, and correct the errors of all others, he has contented himself with detecting the errors and inaccuracies of Dr. C. and has merely given us an improvement of the "*Synopsis Nosologiæ Methodicæ*." That he has very much improved the arrangement of Dr. C. and devised a lucid and unexceptionable division of classes and orders, we acknowledge with pleasure; and we even venture to assert, that, with a few exceptions, the diseases therein enume-

rated, could not have been placed in an order more natural, or more conducive to the important practical purposes for which a nosological nomenclature is intended.

It is the design, and the only useful end of nosology, to mark the assemblage of symptoms which constitute diseases, to establish the diagnostics between diseases that are closely allied, and thus to simplify and render a knowledge of them easy. The accomplishment of this important object can only be effected, by so fixing their character, and establishing the marks by which they are individually designated, that upon seeing a case, or the description of a disease, its class and order may be immediately determined, and thus the proper indications be suggested. And so precise should be the definition, that it should immediately designate, in the mind of the reader, the name of the disease it is intended to describe. This, we say, is the only useful end of nosology; and we regret that the work under review fails in the only respect by which it could possibly have been entitled to the merit of usefulness. The definitions are not only sometimes deficient, and sometimes exuberant in details, but frequently vague and indefinite in their import, and even incorrect and inconsistent. The language is often so guarded by the qualifications "sometimes," "frequently," "for the most part," &c. that one might be induced to suppose that some of the most constant symptoms of diseases are only occasional and fortuitous; and, indeed, we may say that, generally, the diction is deficient in conciseness and precision, and not unfrequently inaccurate.

It is extremely illiberal in a critic, and indeed contrary to an established rule of criticism, to be severe upon faults which bear but a small proportion to the excellencies of a production. "*Ubi plura nitent in carmine, non ego paucis offender maculis quas aut incuria fudit, aut humana parum cavit natura.*" But when every page presents errors and inaccuracies, which cannot be resolved into the effects of inadvertence, and an unexceptionable definition can scarcely be found in the whole volume, what claims has the writer to the lenity of the critic?



Can he be justly exempted from exposure and reprehension! "judex damnatur cum nocens absolvitur."

After this candid and free exposition of our sentiments, it would be improper to omit the notice of those parts which have induced us to speak so severely of the work. We therefore request the reader to accompany us through a brief examination of its merits; and while we freely expose its errors, we will not fail to give due credit to its excellencies.

Class I.—*Febres*—"a disturbed state of the whole system." The author here establishes the universality of the affection, as being essential to the character of the fevers. In the whole system are included the muscular, the nervous, the absorbent, and the sanguineous systems. That each of these departments is occasionally, nay, frequently affected in fever, is readily conceded. Violent successions of the body are not unfrequently witnessed; disorder of the nervous energy, evincing itself in delirium; tremors, rigors, &c. are common; derangement in the functions of absorption frequently attends; the vascular system is generally affected; and even the fluids are not exempt from the invasion; but that a universal affection is essential to constitute fever, is contradicted by experience, and virtually denied by the author himself. In the very succeeding pages, pp. 132-3, he divides quotidian and tertian fevers into species. "1. *Universalis*—affecting the whole system. 2. *Partialis*—attacking only some particular part; as the head, the eye, the arm," &c. Could a more palpable and direct contradiction be made?

Order 1.—*Intermittents*.—This definition is correct and elegant. It expresses all that should be comprehended; and is only rendered superfluous by the last clause; "but one paroxysm a-day." That this addition is unnecessary, will be seen by adverting to the division of species below.

Order 2.—*Remittent*.—This definition is also good; but the author has rendered this section deficient, by the omission of definitions of the genera. Bilious remittent, and infantile remittent, are diseases of so frequent occurrence, and though

agreeing in the circumstance of remission, are characterised by symptoms so different, that the neglect to describe them is equally unaccountable and inexcusable in a system of nosology.

We proceed to examine,

Order 3.—Gen. 2.—*Typhus vel synochus*.—The definition here given is descriptive of typhus fever, and may accord very well with the peculiar notions of the author concerning the identity of synochus and typhus. But all practical writers concur in the experience, that there is a continued state of fever, attended neither with an inflammatory diathesis, nor with a tendency to putridity; and which, from its unmixed character, they agree in calling simple. It is hence totally distinct from typhus; and although it may run into the latter, it can no more be considered a grade of the same disease, nor confounded with it, than can an intermittent with a continued, or inflammation with sphacelus.

There are also two distinct forms of *typhus*, which the experience of every physician immediately recognizes. The one, from the peculiar affection of the nervous energy which attends it, and the comparative mildness of the symptoms, has been termed *nervosus*, or typhus mitior. Whilst the other, evincing a malignancy peculiar to itself, has been designated by the terms *gravior*, *malignus*, *putridus*, &c. We cannot but consider the identification of these three distinct forms of fever, as a very great error in the work.

Gen. 3.—The definition of *dysentery* is, for the most part, correct; but that it is always attended with a *typhoid* state of the system is an assertion which does not accord with experience. The fever is not unfrequently highly inflammatory.

Gen. 5.—*Pestis Tropicus*.—This definition is very deficient. Indeed it does not characterize the disease; for the appearances that are enumerated, are merely occasionally present; whereas the peculiar symptoms are wholly overlooked. The yellowness of the skin, and the black vomit, are by no means peculiar. They frequently attend common bilious fevers; and from the construction of the second clause, one might suppose that the disease is necessarily fatal. The author



takes no notice of the morbid strength which so frequently attends; he pays no regard to the peculiar appearance of the tongue; and neglects the only pathognomic symptom of the disease, *i. e.* a peculiar softness of the pulse.—Hillary. With regard to its communicability, which is justly included in its character, the author has great reserve in expressing the full extent of his belief. Why say, with a cautious, compromising proviso, it is communicable “under certain circumstances?” Who ever doubted the contagiousness of syphilis? And yet, who ever pretended that it, or any other contagious disorder, was communicable under all circumstances.

We cannot but notice the manner in which *hectic* fever is passed over by our author. Believing that it is in every case symptomatic, he has refused it a place in the enumeration of the genera of idiopathic fevers. Whatever may be the peculiar notions of the author on the subject of hectic fever, we cannot but believe that it would have been as proper to reject *icterus* as a genus, and to reduce it to a mere symptom; for in fact, it is as much a symptom as is hectic fever. The one is attendant upon suppuration; the other is the consequence of inflammation, or engorgement of the liver; or the effect of obstruction of the biliary ducts by calculi, spasm, or inspissated bile. But even conceding that it is always a symptom, this will not exonerate the author from the imputation of being too exclusive in his attempt at strictness of method in a subject which does not admit of it. A variety of affections, which perhaps cannot strictly be called diseases, require, notwithstanding, to be distinguished from such as really are so; and ought, therefore, to be comprehended in a system whose object is to define and distinguish diseases. By referring to page 151, it will be seen that the author makes hectic fever an important circumstance in the character of phthisis. Now we may ask, how is the class, for whose use the work is pretended to be printed, to know consumption, when they are not made acquainted with so essential a constituent of its character? We look upon this omission as an important defect in the work.

We have omitted many things which are objectionable in the first class; and yet have extended our remarks to a much greater length than we intended; we will therefore proceed to the second.

In the examination of which class, we will not be so minute as in the preceding, but will merely notice the most prominent and important errors and deficiencies.

Class II.—The definition would have been good, but for the vague and indefinite clause which concludes it—"often with a derangement of some of the internal parts."

Gen. 2.—*Phrenitis*.—This definition is extremely defective. The author does not tell us the state of the pulse; nor does he notice the pupil. He makes no difference between *cephalitis*, and *phrenitis vera*, except in degree; whereas, some of the most important symptoms are very different in each.

Class II.—*Phlegmasiæ*.—The definitions of ophthalmia, otitis, odontitis, and parotis, are all objectionable; suffice it to observe, that in marking the species of the last, the author has omitted the only characteristic of the first species; *i. e.* its occurring but once in life. The same remark will apply to his description of *pertussis*.

It is proper, in a definition, that every essential circumstance be marked; and it is injudicious to encumber it with the superfluous addition of remarks which are necessarily deduced from what is already laid down.

Thus, if, after enumerating the characters which make up man, a lexicographer were to add, that he is not covered with feathers, or scales, and has no tail, how perfectly ridiculous would be his definition!

Agreeably to this axiom, and in analogy with this case, how exuberant will the last clause of the character of trachites appear: "no tumor of the fauces," &c.

Gen. 13.—*Pneumonia*.—In the disposition of this genus into species, the author has displayed the same accuracy and clearness of arrangement, which always characterise his divisions. He has properly placed carditis and diaphragmitis as distinct



genera, and not as species of pneumonia, in which they have generally been included.

But in his definitions, we regret to observe that deficiency of important and characteristic circumstances, which we have so frequently noticed. The definition of pneumonia is nothing but the description given by Dr. Cullen, which would answer just as well to asthma. When we consider how greatly the countenance is modified in expression, by disease; and what important data for diagnosis the attitude may afford, we cannot but regret that the author has overlooked them. In fact, these are frequently the only circumstances by which we can distinguish thoracic inflammations from those of the abdomen.

In inflammatory affections of the chest there are a peculiar sharpness of the nose, and an elevation of the *alæ nasi*, at each inspiration; and these remarkable appearances are always in proportion to the severity of the affection. The elevation of the upper lip, and grinning, which attend acute inflammation of the abdomen, are very characteristic. In thoracic affections the patient lies usually on the unaffected side; the reverse is observed in abdominal inflammations. Another remarkable circumstance connected with posture is, that the lower extremities are always drawn up towards the abdomen, and that all changes of position are made with great caution, and very slowly. In inflammation of the chest, respiration is performed by the diaphragm alone; all motion of the ribs is suspended. In abdominal inflammations, on the contrary, it is performed by the thorax, the diaphragm remaining unmoved. Hence, in the former case, pressure on the abdomen will produce pain in the chest, by impeding the action of the diaphragm; and, in the latter, while pressure on the abdomen increases pain, in consequence of the extreme sensibility of the parts, pressure on the chest also will have the same effect, by impeding the free expansion of the thorax; and hence the effort, in both cases, to suppress coughing, a circumstance very apt to be considered as indicative of pulmonary affection only. We might enumerate many more important diagnostic circumstances, which should have been noticed in these definitions,

but it would not be compatible with the limits, nor, indeed, with the design of a review, to portray them all. We have adduced these instances to exhibit the great deficiencies of the work, not to supply them.

After this cursory view of the importance of observing the countenance and attitude in these diseases, we cannot but recommend the judicious advice of Celsus: "*Medicus neque in tenebris, neque a capite ægri debet residere; sed illustri loco adversus sum, ut omnes vistas, ex vultu quoque cubantis perspiciat.*" Lib. 3. cap. 6. It was a happy idea of Dr. Rush, that representations of the countenance in diseases, upon canvass, would greatly promote the science of diagnosis; and we witness with great pleasure, that a late English writer promises to undertake this interesting and important work.

We might extend our remarks to every genus included in the phlegmasiæ, but such prolixity would be unnecessary. We may say of this class, that generally the definitions are extremely faulty and deficient in marking the characters of the diseases, and frequently abound in superfluities. The species are seldom defined. The important indications of the tongue, the pulse, the surface, the countenance, and attitude, are wholly overlooked. In fact, we see, in these definitions generally, nothing but bad translations of Dr. Cullen's. But we would be unjust, did we neglect to bestow praise upon the work for the very important improvements it proposes in the terminology of some diseases. In the classical and uniform terminations of odontitis, parotis, mastitis, trachitis, laryngitis, glossitis, tonsillitis, urethritis, orchitis, proctitis, &c. we see a very great improvement in medical nomenclature, and the addition of many diseases to the list of phlegmasiæ, which have heretofore been wholly omitted, or referred to some other class to which they bear no analogy, cannot but entitle the author to the credit of having formed an unexceptionable class.

Class III.—*Cutanei*.—The author having, in this class, adopted the excellent arrangement of Dr. Willan, and in the definitions largely availed himself of the facts and language of Dr. Bateman's Synopsis, we could not with propriety censure it, even had it been exceptionable in any



part. But perhaps it is impossible to dispose cutaneous diseases in a more lucid and natural manner. It is true, many diseases are associated under the same order, which bear no analogy to each other, except in a single circumstance, and the treatment of which is totally different, as variola, and scabies, and vaccinia, and herpes, and aphtha; but, perhaps, this is a difficulty inseparable from such an arrangement. For our part, although we have always admired Dr. Willan's arrangement, we consider it much too refined and minute for practical purposes. We, however, commend the author's judicious preference of Dr. Willan's arrangement, and Bateman's improvements.

Class IV.—*Profluvia*.—We could not make an exception to the enumeration of the diseases in this class; nor is there a definition that is not perspicuous and correct. We here observe no deficiencies, no superfluities. We, however, regret that the author has, in compliance with vulgar prejudice, made the infantile remittent a species of cholera, to which it bears no resemblance; and, as if to prevent detection, has not even defined it.

Class V.—*Suppressiones*.—The division and arrangement of the orders are lucid and correct; the definitions generally good, though frequently too laconic.

Gen. 1.—*Icterus*.—The author would convey the idea that it is always the result of obstructions of the biliary vessels. We believe it to be frequently the consequence of engorgement, or over-distention of the liver, and a too copious secretion of bile. We think that the marks, by which the different species are to be discriminated, are not sufficiently minute.

Gen. 6.—*Amenorrhæa*.—The omission of the symptoms which attend the several species of this genus, must be considered as a great defect in this part of the work, and as inconsistent with the object of a nosological system.

Class VI.—*Neuroses*.—The general character of the nervous disorders is well defined; and the division into orders good.

Gen. 1.—*Asphyxia*.—The definition of this disease is too concise; and, perhaps, would apply as well to death.

Gen. 2.—*Apoplexy*.—In this definition the author omits the consideration of the pulse, which, perhaps, is the most important circumstance in the disease. He does not notice the remarkable suffusion of the countenance which occurs. He does not remark the peculiarity in the breathing, which attends most serious cases, and is always present at the approach of death, with a peculiar inflation of the cheeks. “Apoplectici, qui prope absunt a morte, in spirando ambasbuccas inflare solent.” Heberden. Comment. Nor does he observe the involuntary discharges of the urine and fæces, which generally come on a short time before death. All these are important diagnostic circumstances, which deserve notice; and the dangerous character of the disease renders such omissions highly reprehensible.

Order 2.—*Odynamia*.—On this head we have barely to remark, that the diseases generally are not sufficiently defined. In this order are enumerated, as genera, some diseases not at all agreeing with the character given to it, *i. e.* “impaired involuntary motions:” viz. *satyriasis* and *nymphomania*. And, perhaps, *satyriasis* and *nymphomania* are improperly separated as distinct genera; as they are nothing more than the same affection occurring in different sexes.

Order 3.—*Spasmi*.—It would be unnecessary and tedious to point out the trifling errors, and exceptions to the definitions of this order; we will, therefore, only notice a few of the most prominent.

Gen. 8.—*Asthma*.—In this definition are omitted the distressing anxiety which attends, the remarkable coldness of the skin, the frequent eructations, and the peculiar bluish expectoration.

Gen. 9.—*Colica*.—This definition is very imperfect; indeed, it does not present a single characteristic symptom. In colic there is a peculiar grinning, or distortion of the countenance, which occurs in paroxysms; in inflammation it is permanent. The patient writhes to and fro, evinces great restlessness, and no caution. In inflammation we have seen that his motions are cautiously and slowly performed. Pressure



on the abdomen relieves the pain; hence his extremities are extended, he presses violently with his hands, or turns upon his belly; the reverse is observed in inflammations. In colic, his complaints are loud and boisterous; in inflammation he moans. In the latter, the pain is constant; in the former, recurring in paroxysms of agony, and completely subsiding in the intervals. We cannot excuse the omission of the diagnostic symptoms of a disease, so apt to be confounded with one which requires a very different treatment.

Order 3.—*Vesaniæ*.—The genera of this order are correct, and the definitions generally good; but melancholia and mania are too slightly passed over, and the marks by which they are to be distinguished too imperfectly laid down.

Class VII.—*Cachexiæ*.—We have no objection to advance against the division of this class; but the definitions, though sometimes very good, are certainly frequently imperfect. Some important diseases of this class are not sufficiently characterized; for instance, the dropsies generally, the scrofula, syphilis, scorbutus, &c.

Class VIII.—We have here also to commend the work as presenting a good arrangement; but the definitions seem rather to be intended to explain the names of the diseases, than to define them. Their symptoms are seldom detailed; and we are generally merely told what the disease is, not furnished with the marks by which we are to know it. The important genus *Hernia* is merely described as “a protrusion of a viscus from its proper cavity,” (a circumstance which its name already denotes,) but its various kinds are not enumerated, nor are its symptoms given. The various kinds of luxations might have been given with propriety, and their diagnostics pointed out with advantage. But as it is, we can only consider this class as added rather to complete the list of diseases, than to serve any practical purpose. And when we consider how much the local diseases, as a class, have been neglected, and yet how much might have been collected from various sources, on the several affections individually, we cannot but regret that the author has suffered the work to appear so imperfect and defective in this part.

Before summing up its general character, it may not be improper to make a few remarks on a prominent feature of the work. The list of authors on each disease, although certainly a great and valuable addition, is not becoming the character of the work. Had it been intended exclusively for the use of the professor's class, it might have been suitable ; but it certainly could not have been published with this sole view, as it is dedicated to professor Gregory of the university of Edinburgh. There are also manifest improprieties even in this department. The frequent references to inaugural dissertations, (some of which contain only an allusion to the diseases under which they are cited,) the enumeration of fugitive papers and ephemeral magazines, and the egotism displayed in the numerous and almost continual references to the author's own writings, as standard works, cannot fail to displease and disgust. They form blots upon the work of no small magnitude.

We have thus revised the volume under consideration, and are prepared to estimate its merits as a whole. To deny it merit would be impossible ; yet, to cry it up as a complete and perfect system of nosology, would be unjust. It has undoubtedly the great merit of proposing an unexceptionable classification. It certainly is entitled to praise on the ground of execution, for it cannot be denied that some parts of it are truly excellent ; yet we cannot conceal that, in many respects, it is extremely lame and defective. Although we have had occasion to point out many deficiencies and errors, we consider it as a most admirable outline, which it is hoped will yet be filled up by the learned and able author.



## FOREIGN PAPERS, &c.

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*Observations on Diseases of the Spinal Marrow.* By J. Abercrombie, M. D. Fellow of the Royal College of Surgeons, Edinburgh.

[From the Edinburgh Medical and Surgical Journal for 1818. No. LIII.]

Too little attention seems to have been paid, in this country, to diseases of the spinal marrow. When we consider the delicacy of its structure, and its similarity to the structure of the brain, we expect to find it liable to numerous diseases, similar in their nature to the diseases of the brain; and, when we recollect the numerous nerves that arise from it, we conclude that its diseases must have an extensive influence on many functions of the body. They open an interesting field of investigation; and, if prosecuted in a cautious and philosophical manner, promise important results in the pathology of many diseases hitherto involved in much obscurity.

By the ancients, much importance was attached to the spinal marrow as a seat of disease, especially in convulsive and paralytic affections. Alexander Trallian went so far as to maintain, that paralysis of the limbs has its origin in the brain, only when it is accompanied by paralysis of some part of the head, as the eyes or tongue; and that, when not accompanied by paralysis of any of these parts, it always depends on disease of the spinal marrow.\* Galen seems to have held nearly the same opinion.† In modern times, a good deal has been done in the

\* Alexander Trallianus de Arte Medica, lib. i. cap. 16.

† De Loc. Affect. cap. x.

investigation of this subject by continental writers, among whom may be mentioned Frank,\* Ludwig,† Astruc,‡ Plouquet,§ Portal,|| Brera,¶ and Ranchetti.\*\* Some of these writers, it must be confessed, have treated the subject in the way of hypothesis, or ingenious conjecture, rather than cautious investigation; but, by others, many important facts have been related, which, when brought together, throw considerable light on the pathology of this important organ. In the observations which I am now to offer, I mean to attempt a very general outline of the diseases of the spinal marrow; and, in the present imperfect state of our knowledge, it will, perhaps, be best to arrange them simply, according to the morbid appearances that have been observed on dissection.

### *I.—Inflammation and Suppuration.*

The following remarkable case I did not see during the life of the patient, but I was present at the examination of the body.

Mr. R. aged 26, had been for several years liable to suppuration of the left ear. It usually discharged, at all times, a little matter; but he was also liable to severe attacks of pain, followed by more copious discharges. The pain, on these occasions, extended over the left side of his head, and often continued for a week with much severity. In the first week of April, 1817, he was confined from his usual employment by pain of his head, affecting both the forehead and the occi-

\* Frank, *Oratio de Vertebralis Columnæ in Morbis Dignitate*; in *Delect. Opusculor.* Vol. XI.

† Ludwig, *Adversaria Medico-practica*, Vol. II. de *Doloribus ad Spinam Dorsi*.

‡ Astruc, *Quæstio Medica an Morbo Colicæ Pictonum, rectius Rachialgiæ, Venæsectio*.

§ Plouquet, *Exemplum Singularis Morbi Paralytici*.

|| *Cours d'Anatomie Medicale*, Tom. I. et IV.

¶ *Della Rachialgite, cenni Patologici*, in *Atti dell' Accademia Italian.* Tom. I.

\*\* *Della Struttura, delle Funzioni, é delle Malattie, della Midolla Spinale*.



put. He was in bed part of the day, but sat up during a considerable part of it, reading and writing ; his appetite was bad, and his sleep disturbed ; but there was little or no frequency of pulse, and for a week the complaint excited little attention. About the end of the week he complained of the pain extending down his neck. In the second week of his illness, the pains in the head nearly ceased, but the pain of the neck became more severe, and extended farther down along the spine. It continued, for several days, to extend farther and farther down, till at last it fixed, with intense severity, at the lower parts of the spine, from which it extended round the body, particularly to the spinous processes of the ilia. From the time when the lower part of the spine became so much affected, he never complained of his head, and seldom of the upper part of the spine ; but he became affected with great uneasiness over the whole abdomen, and great pain and difficulty in passing his urine. From the violence of these complaints, his sufferings about the 15th became extreme ; he could not lie in bed for five minutes at a time, but was generally walking about his house in extreme agitation, grasping the lower part of his back with both his hands, and gnashing his teeth from the intensity of pain. He had no interval of ease, and was sometimes incoherent and unmanageable. On the 16th, he went to the warm bath, walking down three stairs, and into an adjoining street, with little assistance. After his return, he thought himself somewhat relieved, but the pain soon returned with its former severity, accompanied by great pain in the belly, severe dysuria, confusion of thought, and some difficulty of articulation. The pulse was about 100 ; the bowels were easily kept open by the ordinary purgatives. On the 17th, the symptoms were unabated. In the course of that day some squinting was observed, but it was not permanent. His speech was considerably affected ; there were convulsive twitches of the face, and some difficulty of swallowing. The pulse was from 120 to 130. At night some blood was taken from his arm, after which he became easier, and lay in bed for some time. After a short time, however, he got up again, and continued till three o'clock in the

morning, sitting up, or walking about the house, tearing off his clothes, delirious and unmanageable. About three o'clock, he suddenly threw back his head with great violence, and fell into a state of coma, in which he continued for two hours, and died. No paralytic affection had been observed at any period of the disease,—no difficulty of breathing,—no vomiting,—and no convulsions, except the twitches of the face on the 17th. The pulse had varied from 90 to 130, and was reported to have been generally small and irregular. The bowels were easily kept open; but the pain of his back was much increased by going to stool. Two days before his death he had several attacks of shivering. Much purulent matter was discharged from the left ear during his illness, and an inflamed tumor had been formed behind it. The practice that was employed, consisted of general and topical bleeding, purgatives, and a blister on the back. The blood showed a strong inflammatory crust.

*Dissection.*—After the most careful examination, every part of the brain was found to be in the most healthy state. On taking out the brain, some gelatinous matter was found under the medulla oblongata, and purulent matter appeared in considerable quantity flowing from the spinal canal. On cutting across the spine, about the fourth cervical vertebra, purulent matter still flowed from the lower part of the canal, in consequence of which I laid open the whole spine down to the sacrum, by cutting the vertebræ on each side of the spinous processes. I thus discovered the spinal marrow, through its whole extent, covered with a coating of purulent matter, which lay between it and its membranes. No place could be detected in which it seemed to have been formed in such quantity as to have flowed over the other parts, but it was distributed with such uniformity, as gave it the appearance of having been produced by the disease extending gradually over the whole cord. It was, however, rather more abundant at three places; at the upper part of the canal, near the foramen magnum, about the middle of the dorsal vertebræ, and at the top of the sacrum. The substance of the spinal marrow was remarkably soft, and



in some places much divided into filaments. All the viscera were sound.

This may be considered as an example of idiopathic active inflammation of the spinal cord or its membranes. I add the following from Mr. Charles Bell, as an example of the disease induced by external violence. A waggoner, sitting upon the shaft of his cart, was thrown off by a sudden jerk, and pitched on the back of his neck and shoulders. He was carried to the Middlesex Hospital, where he lay for a week without complaining of any thing, except stiffness of the back part of his neck. He could move all his limbs with freedom. On the eighth day after his admission, he was seized with general convulsions, and locked jaw. After a few hours, he was affected with a singular convulsive motion of the jaw, which continued in a state of violent and incessant motion for about five minutes. This was followed by maniacal delirium. He then sunk into a state resembling typhus fever; and, after four days, was found to be paralytic in his lower extremities. "He lived a week after this, but continued sinking, and still retained about him much of the character of typhus. The day before his death he was perfectly sensible, and had recovered sensation in his legs, for he could feel the rubbing of a finger upon them." On dissection, a great quantity of purulent matter was found within the spinal canal, which had dropped down to the lower part of it. It appeared to have been formed about the last cervical and first dorsal vertebræ; there the intervertebral cartilage was destroyed, so that the pus had escaped outwards among the muscles.

In another case related by Mr. Bell, in which the last dorsal vertebra had been fractured, purulent matter was found between the spinal cord and its membranes. In this case there was no paralysis, but fever, restlessness, vomiting, high delirium, and death from sudden sinking.\*

These cases will serve to illustrate the active form of the disease. It also occurs under the form of *chronic inflamma-*

\* Quarterly Report of Cases in Surgery, Part II.

tion. This modification will be illustrated by the three following cases, which are related by Brera.\*

1. A woman, aged 23, who had suffered considerably from syphilis, was seized with a severe quotidian intermittent, which proved very tedious, and resisted all the usual remedies. After some time, it was accompanied by pain in the lumbar region, diarrhœa, tormina, tenesmus, general debility, and emaciation. About three months after the commencement of the fever, she began to be affected with weakness and convulsive motions of the left lower extremity, resembling chorea. In walking, the leg was dragged; and if she attempted, by a strong effort, a greater degree of motion, it was thrown into convulsive distortions. Soon after, the left arm became affected in the same manner, and there were also convulsive motions of the face and eyes. At this time the complaints in the bowels continued, but ceased soon after. The other symptoms increased. The difficulty of moving the limbs soon amounted to nearly complete paralysis; and to this were added, difficulty of articulation and diminution of memory. These terminated in loss of speech, coma, and death, which was preceded by general and terrible convulsions. Her death happened rather more than a month after the commencement of the convulsive affection of the leg. On *dissection*, some serous effusion was found in the thorax and in the ventricles of the brain. The spinal marrow was soft and flaccid, and to a considerable extent suppurated. Its investing membrane was in many places covered by a puriform fluid. There was also serous effusion in the spinal canal.

2. A man, aged 40, was received into the hospital of Crema in the spring of 1804, with no other complaint but general weakness and depression, for which no cause could be assigned. He lay constantly in bed, but complained of no pain; his appetite was good, and he was free from fever. Suspicions being entertained that he was feigning, threats and entreaties were used to induce him to exert himself, but in vain. Meanwhile, from being lean and pale, he became fat and ruddy.

\* Della Rachialgite, cenni patologici.



Thus he continued through the summer and autumn. As winter approached, he lost his appetite, and became lean and cachectic. In February, 1805, he became completely paralytic, both in his legs and arms, and died suddenly in March. On dissection, all was sound in the head, the thorax, and the abdomen. In the spinal canal there was much effusion of bloody sanious fluid, with marks of inflammation and suppuration in the spinal cord, the substance of which was remarkably soft, and tending to dissolution.

3. A young soldier who had lately recovered from a petechial fever, was affected with pain in the dorsal vertebræ, difficulty of moving the lower extremities, suppression of urine, involuntary discharge of feces, general debility, and emaciation. A variety of practice was employed for several months, without relief. The weakness of the lower extremities increased to complete paralysis; and soon after the superior extremities became affected in the same manner. He then lost his speech. After lying a fortnight in this state, completely immoveable and speechless, but in possession of his intellectual faculties, he died suddenly. On *dissection*, there was found no trace of disease in the brain, the thorax, or the abdomen. The spinal cord was inundated by a great quantity of sanious fluid. The cord itself was suppurated, dissolved, and disorganized, at the lower part of the dorsal region. Above this it preserved its natural figure, but was very soft. Its investing membranes, and the periosteum lining the canal of the vertebræ, were destroyed at the part where the chord was so much diseased; the vertebræ and their ligaments were sound.

The following case related by Portal,\* shows another modification of the disease. A woman had been long subject to a convulsive affection of the left lower extremity, immediately before the appearance of the menses. This occurred at every menstrual period. When the discharge took place freely it ceased. After the cessation of the menses, which happened at the age of 40, this extremity became paralytic. After some

\* Cours d'Anatomic Medicale, Tom. IV. p. 217.

time she was affected with convulsions of the left arm, and soon after died comatose. On *dissection*, the membranes of the spinal cord were found in a state of inflammation at some of the last dorsal vertebræ and first lumbar; the cord itself was very red and softened on the right side; on the left side it was sound through its whole extent.

Lieutaud, with his usual brevity, refers to a case in the *Miscell. Curiosa*, of a man who died of continued fever, after having been affected in the course of it with ischuria and paraplegia. The right kidney was found black, and the spinal marrow on that side "affected in the same manner." In a similar case quoted by him from Lælius a Fonte, in which death happened on the fourteenth day of continued fever, after paraplegia and suppression of urine, "*in conspectum venit ren sinister, inflammatus et syderatus; læsa etiam erat medulla spinalis in eodem latere.*"\*

When we review the phenomena which have been observed to accompany these diseases of the spinal cord, we find affections of all the principal organs. In the parts connected with the head and neck, we find distortion of the eyes, convulsive affections of the face, difficulty and loss of speech, loss of voice, contraction of the jaw resembling trismus, and difficulty of swallowing, which is said, in some cases, to have nearly resembled hydrophobia. In the viscera of the thorax there have been observed, palpitation and oppression of the heart, painful sense of stricture in the region of the diaphragm, and difficulty of breathing, which, in some cases, has been permanent, and in others, has occurred in paroxysms, like asthma. In the organs of the abdomen and pelvis we find vomiting, pain of the bowels resembling cholic, diarrhœa and tenesmus, involuntary discharge of feces, and suppression or incontinence of urine. In the muscular parts are observed convulsions and paralysis (the convulsions, in some cases, resembling chorea, in others, tetanus); in the intellectual functions, loss of memory, delirium, and coma. In the present state of our knowledge, we

\* Lieutaud *Historia Anatomico-Medica*. Tom. 1. Obs. 1072 and 1109.



are by no means prepared to say, that all these diseases proceed from the affection of the spinal cord, especially as we observe remarkable diversities, and considerable want of uniformity in the symptoms. This is most remarkable in the affections of the voluntary muscles. In some cases we find both convulsion and paralysis ; in others, paralysis without convulsion ; and in one very severe case above described, there occurred neither convulsion nor paralysis. We observe similar varieties in the affections of the other organs ; and the particular organs that are affected, do not appear to depend invariably, as has been supposed, on the part of the spinal cord which is the seat of the disease. The laws which regulate these diversities remain to be investigated by future observation.

## II. *Serous Effusion.*

Serous effusion in the spinal canal is generally situated under the dura mater of the spinal cord. It is probably the effect of inflammatory action, as we have good reason to believe it to be in the brain. It occurred in several of the cases already described, combined with suppuration ; it is also met with unaccompanied by any other morbid appearance. The symptoms that have been observed to attend it in such cases will be illustrated by the following examples :

1. \* A man, above 40 years of age, was affected with pain and weight in the lower dorsal vertebræ ; the pain was acute, and occasionally extended upwards and downwards to the top and bottom of the spine. It had continued eleven days, when he was seized with paralysis of the right lower extremity, which, in three days more, was followed by suppression of urine. The pain in his back was now so acute, as to prevent him from lying down ; it was soon after accompanied by difficulty of breathing, vomiting, and tonic convulsions of the trunk and superior extremities ; the convulsions recurred at intervals, and continued about fifteen minutes. The left inferior

\* Morgagni de Causis et Sedibus, &c. Epist. x. Sect. 13.

extremity then became paralytic, and he died suddenly; his intellectual faculties having been entire, except during the paroxysms of convulsion. On dissection much fluid was found in the cavity of the spine. The spinal cord was sound. There was also fluid on the surface of the brain; there was none in the ventricles.

2. A child, aged 12 months, whose case is very shortly related by Mr. Chevalier,\* after appearing to be in much pain, lost the use of the inferior extremities, and died in three days. The spinal canal was found full of bloody serum.

3. Bonetus† mentions a young woman, who, after suffering severely from colic, fell into paralysis. It began at the upper part of the arms, and extended gradually to the points of the fingers. Afterwards the legs became affected, and she died of gradual exhaustion, a year after the first appearance of the paralysis. Through the whole extent of the spinal cord there was a space between its dura and pia mater, full of serous fluid. There was also some effusion on the brain.

4. A man mentioned by Portal‡ had numbness of the inferior extremities, followed by paralysis of them and extensive œdema. After some time, the superior extremities were affected in the same manner, and the œdema extended over the whole body. He died comatose. On *dissection* much fluid was found both in the brain and in the spinal canal. In the centre of the spinal marrow there was a canal into which a large writing quill could be introduced; it extended as far as the third dorsal vertebra.

Many cases are related by Morgagni, Bonetus, and others, in which much serum was found in the spinal canal; but as in all of them there was also considerable disease in the brain, it is not easy to determine what effect the effusion in the spine had in inducing the symptoms.

\* Medico-Chirurgical Trans. Vol. III. p. 105.

† Boneti Sepulchretum Anatomicum, Vol. I.

‡ Cours d'Anatomie Medicale, Tom. IV. p. 115.



III. *Gelatinous Effusion.*

A young man,\* 14 years of age, received a blow upon the spine, betwixt the shoulders, by falling backwards against the corner of a chair. The injury appeared to be slight, and no urgent symptoms followed it immediately. He only complained that, upon raising his head, he had pain striking through and across his chest, and he was observed to hold his chin down towards his breast. After four weeks, he was affected with paralytic symptoms in the legs, which increased, till, in a very short time, he lost the use of them entirely. About the same time he lost the power of retaining his fæces and urine. He had continued in this state for two or three weeks, when his arms became paralytic, and he lost the power of moving his head. He died on the following day, having remained sensible to the last. His death happened about three months after receiving the injury. During the progress of the disease, he frequently complained of great oppression, and a pain darting through the chest. On *dissection* the viscera of the thorax and abdomen were found to be healthy. Some bloody serum was discharged in opening the head. The brain, in other respects, was sound. Much bloody serum was discharged from the cavity of the spine. On opening the spinal canal, a soft substance was found, four inches in length, lying between the bones and the spinal cord, at the place of the injury. When this substance was taken out and shaken in water, a great part of it was dissolved. Parts of the same substance had protruded through between the transverse processes of the fourth and fifth dorsal vertebræ, and formed two tumors of similar soft pulpy matter, lying one on each side of the spine, in the hollow between the spinous and transverse processes. The largest of these was between three and four inches long, one and a half broad, and about an inch in thickness. The spinal cord and the vertebræ were sound.

\* London Medical Obs. and Inq. Vol. III. p. 160.

*IV. Induration of the Spinal Cord.*

This is exemplified in the case of the Marquis de Causan, related by Portal,\* the history of whose disorder is also remarkable, from the similarity of the symptoms to those of an affection of the brain. His complaint began with a prickling in the fingers and toes of the right side, which extended gradually upwards along the arm and leg; the parts wasted, became cold, and lost their feeling; but they retained such a degree of motion, that he could walk with the help of a crutch under the arm-pit of the affected side. He had continued in this state more than a year, when the left side became affected in the same manner. He was then confined to bed, and incapable of any motion, either of the trunk or extremities; the other functions continuing for some time in a healthy state. His sight and hearing were next affected, being first weakened, and gradually destroyed. In the same gradual manner he then lost his speech, and the power of swallowing. Soon after this he died. The pulse and breathing had continued natural till a short time before death, when both became remarkably slow; the pulse having been from 36 to 40 in the minute. On *dissection*, the brain and all the viscera were found in the most healthy state. That part of the spinal marrow which was included in the cervical vertebræ, was so hard as to have the consistence of cartilage. The membranes of this portion were very red, as if inflamed.

*V. Thickening of the Membranes.*

The Count de Lordat,† aged 35, received an injury of the neck by his coach being overturned from a high and steep bank. His head pitched against the top of the coach, and his neck was bent from left to right. He felt little inconvenience

\* Cours d'Anatomie Medicale, Tom. IV. p. 116.

† London Medical Observations and Inquiries, Vol. III. p. 257.



at the time, except some pain along the left side of the neck, which went off in a few days. Six months after he had slight difficulty of articulation, and weakness of the left arm. During nearly twelve months these symptoms did not increase, and gave him little trouble. After this interval, however, they did increase; the arm became withered and useless, the speech was nearly lost, and he had involuntary convulsive motions of the whole body. After another long interval his right arm became benumbed. His breathing was oppressed. He had great difficulty in swallowing; and his body was much emaciated. His bowels were loose; his urinary functions were natural. His death happened suddenly, nearly four years after the accident; his intellectual faculties having remained entire. His lower extremities had been for a considerable time weak and unsteady, but were not paralytic, for he walked from one room to another, leaning on a man's arm, a few hours before his death. On *dissection*, the spinal marrow, included in the cervical vertebræ, was found remarkably firm, resisting pressure like a callous body; and the membranes of this portion were so dense, that there was great difficulty in cutting through them. The medulla oblongata appeared a third larger than natural. The pia mater was thickened, and towards the falx there was some appearance of suppuration. The ventricles were full of water. The lingual and brachial nerves, at their origin, were very compact, nearly tendinous. This hardness was found, in the cervical nerves, to be owing to the density of the membrane covering them. Another example of thickening of the membranes occurs under the following article.

#### VI. *Destruction of a Portion of the Spinal Cord.*

A man, whose case is related by Copeland,\* had paralysis of the lower extremities, difficulty in passing his urine, obstinacy of the bowels, and a feeling of tightness across the belly, as if a broad band had been bound tightly round it. His health

\* Observations on the Symptoms and Treatment of Diseases of the Spine, page 47.

had been declining for more than a year; and the commencement of his complaints was ascribed to having violently strained his back in lifting a heavy weight. After being confined to bed with perfect paraplegia for three months, he died of gangrene of the nates. On *dissection*, no disease could be observed in the vertebræ. Within the lower dorsal and first lumbar vertebræ, the spinal marrow was entirely wanting for more than two inches. The membranes, which there formed an empty bag, were unusually vascular, and much thickened.

#### VII. *Extravasated Blood.*

1. A young lady, aged 14, whose case is related by Mr. Chevalier,\* had been for several days affected with pain of the head and back. The pain of the head was relieved by blisters and purgatives; the pain of the back increased, and was accompanied by a tendency to sickness on sitting up. At the end of a week there was a sudden and violent aggravation of this pain, followed by general convulsions, in which she continued between five and six hours, and then expired. On *dissection*, the spinal canal was found filled with extravasated blood in the lumbar vertebræ, which had been the seat of the pain. The brain and all the viscera were sound.

2. A miller, in lifting a heavy sack, suddenly lost the use of his lower extremities. He died in fifteen days. Extravasated blood was found, mixed with sanious matter, in the vertebral canal. The membranes were inflamed, and the nerves of the cauda equina appeared rotten, as if they had been long macerated in putrid water.†

3. A man received a violent blow on the three inferior lumbar vertebræ by a log of wood which fell upon him. He died in four hours. Extravasated blood was found in the spinal canal. The vertebræ were entire, and the spinal marrow appeared to be healthy.‡

\* Medico-Chirurgical Transactions, Vol. III. p. 102.

† Ibid, p. 105.

‡ Morgagni de Causis et Sedibus, &c. Epist. 54, Sec. 25.



4. Du Vernay, whose case is briefly mentioned by Du Hamel, died of a disease which was considered as apoplectic, but in which he retained his mental faculties to the last. No disease was observed in the brain, but a great quantity of extravasated blood was found in the spinal canal.\*

5. A boy, 14 years of age, received a violent jerk of his neck by a cord which was thrown over his head as he was swinging forwards in a swing. He felt no bad effects at the time; but after some time he was observed to be weak and inactive. He became gradually more and more inactive, and had stiffness of the neck, and difficulty in moving his head. Nine months after the accident, the weakness of his lower extremities increased to paralysis, which was speedily followed by paralysis of the arms, with suppression of urine, and obstinacy of the bowels. He had been a short time in this state, when he was seized with very violent pain in the spine; it was of short continuance; but after that time he became rapidly worse. His breathing became quick, and was performed with an effort. This was first observed only during sleep, but afterwards continued while he was awake. After suffering from it severely for one day, he died. His death happened about ten months after the injury, and a few days after the violent attack of pain in the spine. The only morbid appearance that is mentioned as having been observed on dissection, is a great quantity of extravasated blood in the spinal canal. It lay between the bone and theca vertebralis. It was partly coagulated and partly fluid, and appeared to have come from the upper part of the canal, about the second or third cervical vertebra.†

### VIII. *Tumors and Hydatids.*

1. A tumor, the size of a nutmeg, was found compressing the spinal marrow of a young woman, by Harderus. There were three similar tumors in the cerebellum. The tumors were as hard as scirrhus; when they were cut into, a yellow

\* Du Hamel, Reg. Scient. Acad. Histor. An. 1683, Sec. 5. Cap. 2. p. 264.

† Howship's Observations in Surgery and Morbid Anatomy, p. 115.

matter could be pressed out. The case was complicated with disease of the lungs and liver. The leading symptoms were, severe headach, oppressed breathing, and, a few days before death, violent convulsions.\*

2. A woman, 53 years of age, became epileptic after a fright. The fits returned every second or third day with great violence for three years. She then became comatose after one of them, and died in five days. The pituitary gland contained a cyst full of a reddish brown fluid, and hydatids of various sizes were found within the sheath of the spinal marrow, through its whole extent.†

Hydatids in the spinal canal are also mentioned by Portal and Frank.

#### IX. *Ossification of the Membranes.*

In a woman who had been epileptic for five years, and died suddenly in one of the fits, Dr. Esquirols found the sheath of the spinal marrow, on its external surface, covered through its whole extent with osseous scales, from one line to two lines in diameter.

#### X. *Fungous Excrescence.*

A young man, aged 14, fell from a window in the second story of a house into the street. His back was much bruised, but without fracture or distortion. From the time of the accident he continued to walk with his body bent considerably forward, and he was very weak. About three years and a half after the accident, he was seized with violent pain in the back, thighs, and legs. After some time, a tumor began to form over the lumbar vertebræ, which increased gradually till it attained a very great size; the prominent part of it was very red, and the veins on its surface extremely turgid. Repeated at-

\* Harderi Apiarium, p. 236.

† Memoir of Dr. Esquirols to the Faculty of Medicine of Paris. Bulletin de Faculté de Médecine de Paris, Tom. V. p. 424.



tacks of hæmorrhage took place from the apex of the tumor. He was then seized with complete paraplegia, incontinence of urine and fæces, and extreme emaciation, and at length died, gradually exhausted, about six years after the accident. On *dissection*, the tumor was found to consist of a large fungous mass, in appearance resembling the medullary substance of the brain. It took its origin from the spinal marrow, and had extended itself upwards and downwards from the third dorsal vertebra to the os coccygis. Many of the vertebræ, both dorsal and lumbar, were extensively carious on the posterior part; some of the lumbar vertebræ had nearly disappeared. There was a general softening of all the bones of the spine, and of the sacrum and ilium.\*

*XI. Compression from Diminution of the Spinal Canal.*

This is a rare occurrence. It was, however, observed by Portal.† The canal of the last dorsal and two upper lumbar vertebræ was diminished one half, and its inner surface rendered unequal by numerous small bony eminences. The inferior extremities were much wasted.

*XII. Increased Vascularity and Turgidity of Vessels of the Spinal Cord and its Membranes.*

These appearances constitute the *plethora spinalis* of continental writers, to which much importance has been attached, as a cause of disease in many of the principal functions of the body. By irritation at the origin of the various spinal nerves, it has been considered as the source of many obscure affections of the thorax and abdomen; of tremors, convulsions, paralytic affections, chorea, epilepsy, and tetanus. It has also been regarded as the seat of those painful affections of the back and loins, which take place in connection with hæmorrhoids, menstruation, gestation, abortion, and continued fever. These wri-

\* New London Medical Journal for 1792.

† Cours d'Anatomie Medicale, Vol. I. p. 299.

ters have speculated much on the changes which may take place in the determination of blood in the thoracic and abdominal viscera, so as to throw it with undue impulse on the vessels of the spinal marrow, and produce this plethora spinalis. Such altered determination they suppose to take place most frequently from violent colics, suppressed menses, from diseases of the liver, internal aneurisms, and in continued fever.\* It is, however, extremely doubtful, whether turgidity of vessels can with propriety be considered as a cause of disease. In affections of the head, much importance was formerly attached to it, but more extensive observation has shaken our confidence in this appearance, by showing us that it occurs in a variety of cases, in which there had existed no symptom indicating disease of the brain. In no department of natural science is there a point of greater delicacy than assigning a physical cause, or considering two phenomena as connected in the manner of cause and effect. In experimental philosophy, such investigations must be conducted by numerous and varied experiments; in medicine, by extensive and cautious observation; and it cannot be denied, that a chief bane of medical science has been inattention to this necessary caution, or a practice of assigning physical causes on slight and inadequate grounds. But to return to the proper subject of this essay, I shall conclude this part of it by a short specimen of the observations on spinal plethora.

1. A man who died of peripneumony, had been affected in the course of his illness, with numbness and loss of feeling in the lower extremities. On dissection, the arteries of that part of the spinal cord, which is included in the dorsal vertebræ, were found turgid with blood, as if they had been highly injected;† Portal refers to several other cases, which he explains on the same principle, in which convulsive and paralytic affections of the extremities occurred in various inflammatory diseases.

\* See Frank, *Oratio de Vertebralis Columnæ in Morbis Dignitate*; *Erre della Rachialgite*, and Ludwig *de Dolore ad Spinam Dorsi*.

† Portal, *Cours d'Anatomie Medicale*, Tom. III. p. 219.



2. An infant was attacked during dentition with convulsions, which degenerated into epileptic fits. When five years and a half old, he had four or five fits every day, and became paralytic; he died at six years and a half. The spinal sheath appeared as if injected, and the medullary substance softened, and of a yellowish colour, towards the sixth and twelfth dorsal vertebræ.\*

3. A young man, aged 21, was affected with fever, and high delirium. When the delirium subsided, he had convulsive motions of the superior extremities, and soon after died comatose. On *dissection*, the vessels of the pia mater of the spinal marrow, at its upper and posterior part, were found distended with blood as if they had been highly injected. This was especially remarkable about the origin of some of the spinal nerves. There was a similar appearance on the pia mater of the brain, and some serous effusion on its surface.†

The slight and imperfect outline which I have thus given of the morbid anatomy of the spinal cord, may, perhaps, have the effect of directing to this interesting subject, the attention of such of the younger members of the profession as have opportunities for prosecuting it. I now go on to offer a few observations on the connection betwixt affections of the spinal cord, and diseases or injuries of the spine.

### *I. Concussion of the Spine.*

A severe blow upon the spine frequently occasions an immediate loss of power of the parts below the seat of the injury, without producing either fracture or dislocation of the vertebræ. It is such an affection, that I mean to express by the term "concussion of the spine." The extent of parts affected will depend on the seat of the injury. Paralysis of the lower extremities, and suppression of urine, are the symptoms that most frequently come under our observation. If the injury be on the upper part of the spine, there may also be paralysis of

\* Esquirols Bulletin de la Faculté de Médecine.

† Morgagni de Causis et Sedibus, Epist. 6 17.

the upper extremities, difficulty of breathing, affections of the voice, &c.

In tracing the history of such cases, the following circumstances are worthy of attention.

1. Concussion of the spine may be speedily fatal without producing any morbid appearance that can be detected on dissection. Many cases of this kind are on record. Boyer\* mentions a man, who received an injury of the spine by falling into a ditch. He was immediately affected with complete paralysis of the lower extremities, and died in consequence of the injury; the period of his death is not mentioned. On dissection, no disease could be discovered, either in the head or in the spinal canal. Frank mentions four fatal cases of concussion of the spine, in none of which could any morbid appearance be detected on the most careful examination, either in the vertebræ or the spinal cord. It may also be fatal in a short time by inflammatory action. A remarkable case of this kind has already been quoted from Mr. C. Bell (p. 45). Another, different in its history, is mentioned by Boyer. A builder fell from a height of fourteen feet, and remained for some time senseless. On recovering from that situation, he was found to have lost the use of his lower extremities. He was also affected with retention of urine, an involuntary discharge of fæces, and some disorder in respiration. He died in twelve days. On dissection, a quantity of bloody serum was found in the spinal canal, the quantity of which was sufficient to fill a little more than the lower half of it.

2. Urgent symptoms may follow the injury, and after some time may be removed. Galen mentions a man, who, after an injury of the back, was affected with loss of speech, loss of voice, and paralysis of the lower extremities, the superior extremities remaining unaffected. After seven days he recovered his voice and speech, and soon after the paralysis also disappeared. In summer, 1816, I saw a man who had been employed in blowing a rock near Edinburgh. Not having retired

\* On Diseases of the Bones, Vol. II. page 101.



to a sufficient distance, and standing with his back to the rock when the explosion took place, a large piece of stone struck him on the spine, about the lower dorsal and upper lumbar vertebræ. He instantly fell, completely deprived of the power of the lower extremities. When I saw him, a few hours after the accident, I found him in this state, and affected with violent pain, beginning in the seat of the injury, and extending down the thighs. On the back there was an extensive swelling, which made it impossible to ascertain the state of the vertebræ. He was confined to bed for several weeks, without any power in the lower extremities, and with considerable difficulty in passing his urine; but gradually recovered; and in a few weeks more was free from complaint, except weakness and uneasiness in his back, which affected him chiefly in attempting to stoop; he is now quite well. The practice employed consisted principally of general and topical blood-letting.

In Hufeland's Journal, Vol. XXI. is related the case of a man who fell from the top of a cart-load of wood, and lighted so that the weight of his body rested upon the back of his neck and shoulders, his head being bent forwards. When he recovered from the first effects of the shock, it was found that he had lost completely both feeling and motion of all the parts below the neck. He could move no part but his head. He had also suppression of urine, and obstruction of the bowels. After eight or ten days, he was affected with swelling of the limbs, and a sense of prickling, followed by severe pain, but without any power of motion. After lying several weeks in this state of perfect paralysis, he began to recover a slight degree of feeling and motion, beginning in the fingers. From this time, the power of motion increased very gradually, so that, at the end of sixteen weeks, he was able to support himself in a sitting posture on a chair. After another long interval, he was able to drag himself about, supported on crutches; and at the time when the case was written, he could walk, supported by a stick, and do a little work with his hands, but he continued to have great weakness and pain of his back, the pain being chiefly at the junction of the spine with the sacrum. The progress of the

functions of the bladder and the bowels in this patient is remarkable. He had first complete suppression of urine, requiring the use of the catheter for four weeks. He then recovered the power of passing it, but could not retain it; it flowed involuntarily. After some time he recovered the power of retention. The bowels were not moved without strong glysters for six weeks; after this, the stools passed involuntarily for four weeks. He then recovered the natural action.

3. It may induce permanent paralysis. This may either take place immediately, or the first effects of the injury may be recovered from, and a new diseased action take place after a considerable time. The slight nature of the first symptoms, in such cases, and the slowness of their progress, will be illustrated by the following case. Robert Bain, aged 43, about nine years ago fell from the branch of a tree, and lighted on the sacrum. He was carried home, deprived of the power of his lower extremities, and affected with pain in the lower part of the spine. He was confined to bed about twelve days, and then recovered, so as to be able to follow his usual employment. From this time he was affected with a peculiar feeling of numbness, which was confined to the upper part of the left foot. This feeling gave him no inconvenience, but it never left him. After continuing in this state for four years, the numbness suddenly extended upwards, along the left leg and thigh, and was speedily followed by paralysis of these parts. After some time, he was seized with pain, which stretched across the lower part of the back, and into the right thigh. This was soon followed by paralysis of the right thigh and leg. He was then confined to bed with perfect paraplegia for about two years. About two years ago, he recovered as much power as to drag himself about, supported upon two crutches. He was in this state, without any farther improvement, when I saw him four months ago. His spine was free from distortion, but he complained of deep-seated pain upon pressure about the last dorsal vertebra, and the top of the sacrum. At this place two caustic issues were inserted, and since that time he has made considerable improvement. He can now stand without his



crutches, and, though he cannot walk without them, he can raise his legs much higher in walking, and has much more power of them.

The disease, in such cases, is probably of the nature of chronic inflammation of the spinal cord or its membranes, perhaps inducing thickening of the membranes, or some of the other morbid conditions which have been mentioned in the former parts of this essay. They are illustrated by several of the cases that have been related, particularly those of the Count de Lordat, and the Marquis de Causan, page 126, and the young man mentioned in page 125. Similar affections often follow slight injuries of the spine, which do not, at the time of receiving them, induce any urgent symptoms, and perhaps excite very little attention. Sometimes they take place after so long an interval, that the patient has forgotten the injury, or, if he remembers it, does not consider it as having any connection with his disease. A man, mentioned by Mr. Charles Bell, became paralytic in the lower extremities several months after an injury of the spine, occasioned by striking his back against the corner of a table. A gentleman walking in Burntsfield Links, near Edinburgh, received a blow on the spine from a golf ball, which produced at the time no urgent symptom. After several weeks, his lower extremities became paralytic. In this state he continued four or five months, and then recovered under the usual treatment. In other cases the symptoms take place at an early period, and with such activity, as distinctly marks inflammatory action. A young man, mentioned by Dr. Jebb, received a blow on the spine from a stone. In the evening of the same day, he was seized with a shivering fit, followed by fever, which ran high through the night, but abated in the morning. He had at the same time pain of his stomach and his back, with contraction of the legs. This was followed by weakness of the legs, which, after ten days, had increased to perfect paraplegia. Issues were then inserted, and he was able to walk in three months. Every injury of the spine should be considered as deserving minute attention, and

the most active means should be employed for preventing or removing inflammatory action.

## II. *Disease of the Vertebrae.*

It would be superfluous to enter minutely upon this subject, which has been so amply treated of by writers of the first authority. There are, however, some circumstances relating to it, which it may be proper to mention, in connection with the subject of this essay.

In cases of carious and distorted vertebrae, attended by paralysis, it is well known that the paralysis is not occasioned by the distortion, for this may exist in a great degree without paralysis, and when they have existed together, the paralysis may be removed, while the distortion remains undiminished. The original disease appears to be an inflammatory action, affecting in some cases the ligaments and membranes, in others the articulating surfaces and intervertebral cartilages, and in others, the bodies of the vertebrae. It is in the latter case, that the caries which follows the inflammatory action produces distortion; but even in this case, distortion is not an invariable consequence, for the caries may take place in such a manner as to diminish the size of the vertebra equally along its whole extent, and merely to shorten the spine, without distorting it. This is said to occur most frequently in the lumbar vertebrae. The case of a boy, related by Dr. Armstrong, is very important.\* He had involuntary discharge of urine and faeces, difficult breathing, and paralysis of all the extremities, except a very imperfect degree of motion of the left arm. There was much pain and tenderness on pressure in the cervical vertebrae, but no distortion. He recovered completely in a few months, the vertebrae that had been affected, remaining in a state of ankylosis. In this case, the disease was probably confined to the articulating surfaces. Mr. Copeland gives a plate, in which three of the dorsal vertebrae are represented as united by an-

\* Edinburgh Medical Journal, Vol. IX. p. 386.



chylosis ; the intervertebral cartilages being removed, but without loss of substance in the bodies of the vertebræ. In this case, paralysis had taken place, but there was no perceptible distortion. In attending to diseases of this kind in practice, therefore, it is not sufficient to ascertain the existence or non-existence of distortion. The whole spine should be examined with care, with the view of detecting the presence of inflammatory action. This will be pointed out by pain and tenderness on pressure, or pain on passing a hot sponge over the part, in the manner recommended by Mr. Copeland. Such examination should be made, when symptoms occur which have been observed to be connected with affections of the spine or spinal marrow, especially if they do not yield readily to common modes of treatment, or if they have commenced soon after injuries or sprains of the spine.

The principal symptoms of this kind are the following: Weakness, numbness, or convulsive affections of any of the limbs ; spasmodic starting of the limbs, occurring chiefly in the night ; loss of the full power of the muscles, so that, though the person can walk with his usual steadiness he cannot perform such motions as are required in running or leaping ; numbness along the margin of the ribs, and a peculiar oppression and tightness across the region of the stomach ; various affections of the breathing ; difficulty in discharging the urine and fæces, or difficulty of retaining them. Complaints such as these have sometimes been found to be connected with affections of the spine or spinal marrow, after they had been mistaken for dyspeptic or asthmatic disorders, or for diseases of the urethra or the rectum.

It is worthy of particular attention, that symptoms affecting internal organs may exist in connection with diseases of the spine, without being attended by any affection of the limbs, or any symptom calculated to direct our attention to the spine as the seat of the disease. A girl, mentioned by Mr. Copeland, had difficulty and pain in emptying the bladder, pain and tightness round the margin of the thorax, and difficult breathing. Her limbs were not affected, except that she was more

easily fatigued than her companions. One of the dorsal vertebræ was found to project a little. By topical bleeding and blistering on this part, and rest in the horizontal posture, all her complaints were removed. A man, mentioned by Dr. Jebb, had pain under the short ribs on both sides, cough, and irregular pulse. From the parts affected by the pain, lancinating pains extended downwards along the thighs, occasioning much uneasiness in walking, resembling the pain of rheumatism. The ninth and tenth dorsal vertebræ were protuberant, and by issues applied at that place, all his complaints were removed. The most effectual treatment of these cases in the early stages, consists of topical bleeding, issues, and perfect rest in the horizontal posture. In the more advanced stages, mercury has, in a few cases, been given with much advantage. A girl is mentioned by Mr. C. Bell, who, after an injury of the spine, was confined to bed for eight months in the most helpless state, her back bent, and her knees drawn up. She recovered completely under a course of mercury, given her for syphilis, with which it was discovered that she had been affected from the time of the accident. In the Transactions of a Society for the improvement of Medical and Surgical Knowledge, Vol. III. is related the case of a man who had squinting, difficulty of swallowing, indistinct articulation, paralysis of the left leg and arm, and protrusion of several of the cervical vertebræ. Under a course of mercury, all his complaints disappeared; the protrusion of the vertebræ was diminished, but not entirely removed. Several cases have recovered without any remedy, by confinement to a horizontal posture; this occurred in Dr. Armstrong's case, referred to above.

#### *Affections of the Processus Dentatus.*

1. It may be affected with caries without producing any urgent symptoms, till it suddenly give way, and prove fatal. This occurred in a young man mentioned by Mr. Copeland. He had been using mercury for a disease in the tibia, and had for some time complained of stiffness and pain when he moved



his head. In making a sudden turn of his head, he was seized with convulsions, and died in a few hours. On dissection, the processus dentatus was found completely detached from the vertebra, having been eroded by caries.

2. It may be dislocated by violence. Examples of this are frequent. A man, mentioned by Mr. C. Bell, was making a violent effort to impel a wheelbarrow from the street upon the raised foot pavement, when the wheelbarrow went suddenly from before him, and he fell with his chin upon the curb-stone. He was dead in a few seconds. The processus dentatus was found to have crushed the spinal marrow, the ligaments having given way.

3. It appears probable that the ligaments of the processus dentatus may yield in a more gradual manner, giving rise to a course of urgent symptoms, and death after some time. Some years ago, a man was received into the Infirmary of Edinburgh, who had been accustomed to carry burdens on his left shoulder, his head consequently being bent to the right side. He complained of pain of the forehead and occiput, extending down the neck, pain in the throat, great difficulty, or rather impossibility of swallowing, articles taken into the œsophagus being rejected with some violence, after they had passed a short way into it. He had rigid contractions of the neck and back, resembling tetanus. His articulation was slow and difficult; the pulse fifty-four. These complaints had begun about six weeks before, and had been increasing gradually; difficulty of swallowing was one of the first symptoms. Two days after his admission, his left side became paralytic. On the following day the right side was affected in the same manner, and the breathing became laborious. He died in three days more, having lost the power of every motion below the neck. On dissection, it was found that the ligaments had given way on the left side of the processus dentatus, so as to allow it to compress the spinal cord. No other morbid appearance was observed in any of the viscera.

The spine may be affected with extensive caries without the existence of any symptoms that mark such a state of disease.

A man, mentioned by Mr. C. Bell, who had been liable to severe pain in his back, and fits of palpitation, died suddenly after a long walk. The only morbid appearance observed on dissection, was a large scrofulous abscess in the posterior mediastinum, with caries of several of the vertebræ of such extent, that the spinal marrow was exposed in several places. I saw a similar abscess in the posterior mediastinum, with caries of five or six of the vertebræ, in a girl who died of phthisis. She had complained for some time of a severe pain of the back, but her complaints, in other respects, did not differ from the usual symptoms of phthisis. A similar appearance in the lumbar vertebræ, with a psoas abscess, containing lb. ij. of matter, has been described by Mr. Benjamin Bell.\* The vertebræ were so diseased, that large pieces of them were separated, and the matter was in several places in contact with the spinal marrow. The patient, a man of forty, had complained of severe pain in his back and thighs, which prevented him from raising his body into the erect posture, but there was no distortion of the spine, and no paralysis. He had considerable difficulty of breathing, but this was accounted for by a diseased state of the lungs.

#### CONJECTURES.

The various symptoms that have been observed in connection with affections of the spinal cord and its membranes, have opened a wide field of conjecture in regard to the influence of these parts in several diseases, which have hitherto been involved in much obscurity. These conjectures are not to be altogether overlooked, but they are only to be regarded as having any value, in as far as they direct us to subjects worthy of being investigated by observation and morbid dissections. A short specimen of these conjectures shall conclude this essay.

*Spasmodic Diseases.*—Several writers of eminence have

\* Edinburgh Medical Commentaries, Vol. III.



conceived that many spasmodic and nervous diseases have their origin in affections of the spinal marrow. Hoffman, in his essay "*De Morbis Discernendis*," directs us to distinguish betwixt epilepsy and convulsions. In the former, he says, the membranes of the brain are affected; in the latter, the membranes of the spinal marrow. In his treatise *De Morbis Convulsivis*, he divides convulsive affections into idiopathic and symptomatic. The former, he thinks, arise from irritation of the membranes of the spinal marrow; the latter depend upon diseases of other organs; but, by the influence of these diseases upon the spinal marrow, the effect of them is extended over the whole body. Ludwig discusses the same doctrine more particularly, ascribing many hypochondriacal and hysterical affections to irritation at the origin of the intercostal nerves, and explaining the affections of the lungs, the larynx, &c. in such diseases, by the connection of these nerves with the par vagum. Lieutaud holds a similar doctrine, that all convulsive diseases in which the speech is not affected, depend on diseases of the spinal marrow, and he considers tetanus as an example. The same doctrine is supported by Burserius, Fernelius, and Belfingerus (*de tetano*). Portal supposes that slight pressure on the spinal marrow produces convulsion; and greater, paralysis. He thus accounts for the one passing into the other by gradual increase of the pressure.

In the present state of our knowledge, it must be confessed, that these doctrines are to be considered as little better than conjecture. If, however, we attend to the cases related in this essay, and others that are on record, we must observe, that many diseases and injuries of the spinal marrow have been attended by symptoms resembling those of *chorea*, *tetanus*, and other convulsive diseases. Hoffman mentions a boy, who, after receiving a blow on the sacrum, was seized with a violent convulsive affection, nearly resembling tetanus, with loss of memory, difficult articulation, and delirium. The complaint continued with great severity for five days, and afterwards returned at nearly regular periods, for six months. Burserius relates the case of a man who died of tetanus, induced by ex-

posure to cold after intoxication. On dissection, a large quantity of viscid yellow serum was found under the outer covering of the spinal marrow. Frank also relates a case of "horrible tetanus," which was induced by a blow upon the spine; but he gives no account of the appearances on dissection. The case related in page 140, (3.) of these observations, had also a resemblance to tetanus. In many of the cases that have been related, convulsive affections of the extremities occurred in connection with diseases of the spinal cord; and the case quoted from Brera at page 120, bears a remarkable resemblance to CHOREA. The case from Portal, at page 121, is also deserving of attention.

*Colica Pictonum.*—I have already referred to the case of a woman mentioned by Bonetus, in whom paralysis followed severe colic. Extensive serous effusion was found under the membranes of the spinal cord. Privatius, as quoted by Sauvage, mentions a young woman, who, after suffering from violent gastrodynia for three hours, was attacked with palsy of all the parts below the neck. She died after two months. At an early period of the disease, a protrusion had taken place of the last cervical vertebra. No account is given of the dissection. In this case the pain was supposed to be symptomatic of the disease in the spinal marrow. Similar to this is the view which several continental writers have taken of *colica pictonum*, considering it as a real inflammation of the spinal marrow, (*rachialgia saturnina*), and on this principle they have proposed to treat it by blood-letting.\*

*Fever.*—Ballonius† ascribes many of the symptoms of fever to an affection of the spinal marrow, particularly the pain in the back, tremors of the hands, and oppression of breathing. Whatever importance we may attach to such conjectures, we have reason to believe, that, in certain malignant fevers, the spinal marrow becomes diseased. A remarkable example of this has been already given from Brera, in the young soldier

\* Astruc, *Quæstio Medica*, an morbo Colicæ Pictonum, rectius Rachialgiæ, venæsectio.

† Ballonii *Concilia Medica*,



mentioned in page 121. Ranchetti\* relates the case of a girl, who died of a petechial fever, which had induced coma; on dissection, there were found evident marks of inflammation in the spinal marrow and its membranes, and a quantity of puriform matter about the cauda equina. There were also marks of inflammation in the brain and its membranes.

*Epilepsy.*—M. Esquirols has lately presented to the faculty of medicine at Paris, a memoir on epilepsy, in which he states, that he had examined the bodies of fifteen patients who died of this disease, and found the spinal marrow affected in all the cases. The dissections, however, present no uniformity of appearance.† In one there were hydatids; in another, the membranes were as if injected; in a third, the arachnoid coat of the spinal marrow was “greyish.” In several the medullary substance was softer than natural at particular parts, and in one it was harder; in one the spinal marrow at the eleventh and twelfth dorsal vertebræ was soft, and of a light brown colour. In a young woman, in whom the paroxysms returned with menstruation, he effected a cure by repeated applications of moxa to the spine.

*Hydrophobia.*—M. Salin seems to have been the first who conjectured that, in this horrible disease, the spinal marrow is affected. A case related in the London Medico Chirurgical Journal and Review (for October, 1817,) seems to afford some probability to this conjecture. The case was well marked, violent, and speedily fatal. The membranes of the brain were found highly vascular, with considerable serous effusion. But the greatest marks of disease were in the coverings of the pons varolii, medulla oblongata, and upper part of the spinal marrow. These parts are said to have formed “one crust of intense inflammation.” On the spinal marrow this crust was more intense than on any of the other parts. It is much to be regretted that the spine was not laid open, no more of the

\* Ranchetti della Struttura, della funzione e della Malattie della Midolla Spinali.

† Bulletin de la Faculté de Médecine de Paris, Tom. V.

spinal marrow having been examined than could be cut out by a long slender knife carried through the foramen magnum.

Many cases of *dyspnœa* are supposed by Frank to proceed from disease at the origin of the phrenic nerves; and difficulty of swallowing and of speaking frequently depend, according to Portal, on "engorgement" in the cervical portion of the spinal marrow.

Whether the following case ought to be considered as connected with the spinal cord, or what was the nature of it, I do not know. I have not seen another exactly resembling it. A gentleman, aged thirty-four, of a slender make, and very active habits, was affected, in summer, 1815, with numbness and diminished sensibility of all the extremities. In the inferior extremities, it extended to the tops of the thighs, and sometimes affected the lower part of the abdomen; in the superior extremities, it never extended above the wrists. There was along with it a considerable diminution of muscular power. He could walk a considerable distance, but with a feeling to himself of insecurity and unsteadiness; and he could not in the smallest degree perform such motions as are required in running, leaping, or even very quick walking. He was in other respects in good health. Various remedies were employed without benefit. Evacuations and spare diet seemed rather to increase the complaint. He had continued in the state which I have described for about two months, when he determined to try the effect of violent exercise. For this purpose, he walked, as hard as he was able, five or six miles, in a warm evening, and returned home much fatigued, and considerably heated. Next morning he had severe pain in the calves of his legs, but his other complaints were much diminished, and in a few days disappeared. He has not had any return of the disorder.

The following case occurred to me after a great part of this essay was printed. Perhaps it is worthy of some attention.

A strong healthy child, aged nearly two years, after having been oppressed and feverish for two days, was seized with violent convulsion. The first fit continued about an hour, and



left her comatose, with distortion of the eyes. She had not recovered out of this state when she had another attack of the convulsion, about two hours after the former. During the fits, and for some time after, there was violent and irregular action of the heart, and a peculiar spasmodic action of the diaphragm. The second fit left her in a state of coma, from which she never recovered. She took drink or medicine when they were put into her mouth, but showed no other appearance of sensibility. The eye was completely insensible; the pulse very frequent. She had afterwards several slight attacks of convulsion, and one more severe a short time before death, which happened thirty-three hours after the first attack. The most active practice had been employed without benefit. On *dissection*, no disease could be detected in the brain, except an appearance of increased vascularity in the medullary substance, and slight effusion under the arachnoid coat. The brain and cerebellum being removed, there was a copious discharge of bloody serum from the spinal canal. This canal being laid open, there was found a copious deposition of colourless fluid, of a gelatinous appearance, between the spinal canal and the membranes of the spinal cord; it was most abundant in the cervical and upper part of the dorsal regions. The cavity which contained this *colourless* fluid, seemed to have no communication with the cavity of the cranium. Within the membranes of the spinal cord there remained a small quantity of the *bloody* fluid, which had flowed into the cavity of the cranium. The cord itself, and its membranes, presented no unusual appearance, except that, at the upper part, the cord appeared to be softer than usual, and very easily torn. All the viscera of the thorax and abdomen were perfectly healthy. The foramen ovale was pervious by a small opening.

## MISCELLANEOUS FACTS AND OBSERVATIONS.

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A paper was read by Dr. Granville, before the Royal Society, on a particular malconformation of the uterine system in women, and on some physiological conclusions to be deduced from it.

The case consisted of a female, whose uterus was found after death to have been entirely imperfect on one side, and to have had one set only of the lateral appendages ; yet she had been the mother of eleven children, some of each sex, and was delivered of a boy and a girl at one birth. This case completely proves the fallacy of a physiological hypothesis which has been proposed, that the two sexes are formed on separate sides of the uterine system.

*Annals of Philosophy.*

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### *Test for Arsenic and Corrosive Sublimate.*

The following method has been proposed by Brugnatelli, to discover arsenic and corrosive sublimate in their respective solutions, and to distinguish them from each other.

Take recently prepared wheat starch, boil it in water until it is of proper consistence ; add to this a sufficient quantity of iodine to make it of a blue colour ; and dilute it afterwards with pure water, until it becomes of a beautiful azure. If to this azure-coloured solution of starch we add some drops of an aqueous solution of the oxide of arsenic, the colour changes to a reddish hue, and finally is quite dissipated. The solution of corrosive sublimate, poured into the ioduretted starch, produces in it almost the same change with the arsenic ; but if to the fluid discoloured by the oxide arsenic, we add some drops of sulphuric acid, the original blue colour is restored



with more than its original brilliancy, whilst the colour of the fluid that has been discharged by corrosive sublimate cannot be restored, either by the sulphuric acid or by any other means.

*Ibid.*

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*Newly discovered Membrane of the Eye.*

Dr. Jacob, demonstrator of anatomy in the university of Dublin, has discovered, and demonstrated in his lectures on the diseases of the eye, a membrane, covering the external surface of the retina in man and other animals. Its extreme delicacy accounts for its not having been hitherto noticed. A detailed account of the discovery, with the method of displaying the membrane, is in preparation, and will shortly be laid before the public.

*Ibid.*

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Dr. Chrestien, of Montpellier, has of late exerted himself to restore to medicine the preparations of gold, which, although highly extolled by the older physicians, have wholly disappeared from modern pharmacopœias. The committee, appointed by the Royal Academy of Sciences at Paris, for the purpose of making a report on the medicinal properties of the preparations of gold, have ascertained that friction of the tongue and gums with four grains of powder of gold will (as stated by Dr. Chrestien,) produce sometimes a copious ptyalism, sometimes abundant alvine evacuations, and sometimes profuse perspiration.

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*Use of Tar in Pulmonary Consumption.*

Experiments have lately been made on the use of the vapour of tar in pulmonary consumption, and, it is said, with very favourable results. The following is the method recommend-

ed: With each pound of tar, (such as is used in the cordage of ships,) mix half an ounce of cream of tartar; heat the mixture in a sound vessel, and be careful that no combustion of any portion of the tar takes place, but merely an evaporation. The vapour may then be inhaled for several hours together. It at first sometimes occasions headach, but this soon goes off, and the good effects become in some days evident.

*Journal of Science and the Arts.*

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Dr. Marshall Hall read a paper before the Royal Society, on the combined agencies of oxygen and water, in producing the oxidizement of iron. Dr. Hall has shown, in this paper, that iron is incapable of decomposing water at common temperatures, and that it becomes rusty or oxidized when exposed to common water, as is generally stated, but from the decomposition of the air in water. He also shows that nitrogen alone is evolved, and no hydrogen; and that when water is deprived of atmospheric air or oxygen, iron retains a clear and bright surface, though exposed for many months to its action.

*Ibid.*

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A. Cooper, Esq. in a paper read before the Royal Society of London, on an improved method of making anatomical preparations, recommends corrosive sublimate as the best preservative.

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*New Metal.*

M. Stromyer has discovered the existence of a new metal in the ores of zinc; he calls it *cadmium*. It looks like tin, and its chemical habitudes much resemble zinc, but it is precipitated from its solutions, in the metallic state, by the latter metal.



*Sulphate of Strontian.*

The Troy Lyceum of Natural History has entered spiritedly upon the important work of searching out the native productions of our own country. Among the fruits of the first efforts, is the discovery of sulphate of strontian, in Schoharie county, state of New-York. Amos Eaton, deputed by the society for the purpose, made search for this mineral, and was successful. He made the following report to the society.

## GEOGRAPHICAL LOCALITY.

The fibrous sulphate of strontian, (strontianite or celestine,) is found imbedded in the north-eastern face of a hill, about seventy or eighty feet high, to the extent of at least three-fourths of a mile. The hill is situated in the town of Carlisle, county of Schoharie, about eight miles in a north-westerly direction from the court-house, three miles west from the Schoharie hill, three miles in a south-westerly direction from Sloan's village, and thirty-four miles west from Albany.

## GEOLOGICAL POSITION.

The fibres of the strontian are vertical, (from the fourth of an inch to two inches in length,) standing between the layers of a very soft argillaceous slate rock. By the lateral adhesion of the fibres very extensive strata are formed. As fragments are found through the whole extent of the side-hill in the soil, there can be no doubt that, were the rock laid bare, the strata of strontian would be equally extensive. From the quantity presented to view on laying bare a few feet of the rock, there is good reason to believe that many tons of it may be easily obtained. About three cubic feet of the rock yielded forty pounds of strontianite.

The slate rock, in which the strontian is imbedded, is not the transition slate, but is of a peculiar texture. It rests upon graywacke, which passes into a kind of variegated sand-stone towards its upper surface.

*Literary Intelligence.*

The fifth and sixth numbers of Dr. Barton's splendid work on the "Vegetable Materia Medica of the United States," have just been published. Full and interesting accounts of the natural history, and medicinal properties of the following vegetables are introduced into these numbers: *Podophyllum peltatum*, *Hydrastis canadensis*, *Orobanche Virginiana*, *Aristolochia serpentaria*, *Baptisia tinctoria*, *Acorus calamus*, *Spigelia marilandica*, *Asarum canadense*, *Laurus benzoin*, *Coptis trifolia*, *Fraserea Walteri*, *Polygala seneca*.

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*American Philosophical Society.*

The following persons were elected, on the 1st of January, 1819, officers of the American Philosophical Society.

*President*—Robert Patterson.

*Vice Presidents*—William Tilghman, Peter Stephen Du Ponceau, Zaccheus Collins.

*Secretaries*—Thomas C. James, Robert M. Patterson, W. P. C. Barton, Robert Walsh, jun.

*Counsellors for three years\**—William Rawle, Horace Binney, John Sergeant, John Quincey Adams.

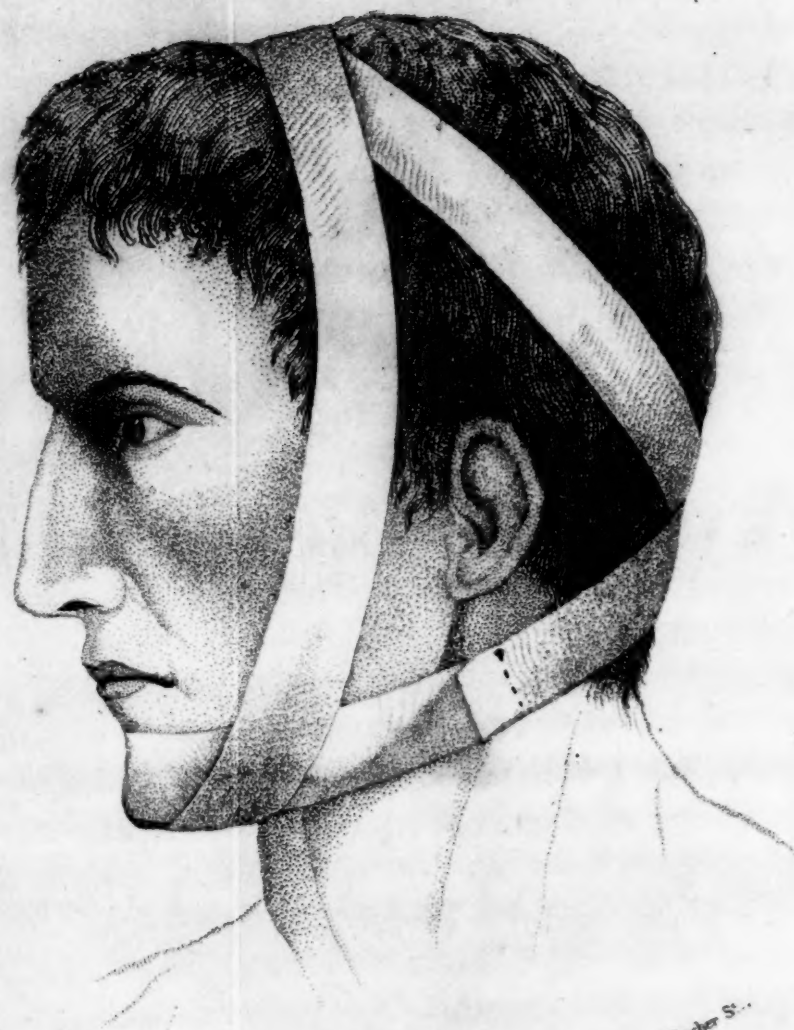
*Curators*—Joseph Cloud, Thomas S. Hewson, Reuben Haines.

*Treasurer*.—John Vaughan.

\* *The other counsellors are*—Thomas Jefferson, William M'Clure, Nicholas Collin, William Meredith, Thomas Cooper, James Gibson, N. Chapman, S. Colhoun.







*J. Rhea Barton, del.*

*Procter S.*

*A bandage for the lower jaw, by J. Rhea Barton.*

*Engraved for the Medical Recorder, Pub  
by James Webster.  
1819.*